The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLVIII. CHICAGO, ILLINOIS, JANUARY 19, 1907. No. 3.

Original Articles

SOME BLOOD CULTURES IN CHILDREN AND THEIR SIGNIFICANCE.*

THOMAS MORGAN ROTCH, M. D.

AND

HARRY CHAMBERLAIN LOW, M. D.

BOSTON.

Although blood cultures in the living have for some time been extensively employed, and have assumed the position of an important modern diagnostic measure, yet very little has been done in this direction in early life, in cases in which the blood has been obtained and examined by modern technic. The earlier methods of procuring the blood, as by puncture of the ear or the finger, have proved to be so unreliable from contamination that such reports as that of Delestre's series of 40 cases of children under four years of age, and in which the blood was obtained from the ear in which bacteria were found in 14 cases, are of little value in the light of modern investigation.

Although Hektoen has reported blood cultures in 9 cases of scarlet fever in children, and Somers has reported streptococci in the blood of an infant six months old during a mild attack of icterus, and while Fischl found the pneumococcus in a child sick with pneumonia, nevertheless, a review of the literature relating to this subject in children shows that it is exceedingly meager.

So far as diagnosis and prognosis are concerned, it is probable that the knowledge which we require from blood cultures will be found to be the same in children as in adults. When, however, we consider how the same diseases in young children show such different phases and such a varied symptomatology in comparison with adults, there is no doubt that the detection of a specific organism in the blood will be of utmost importance in differentiating not only doubtful cases of typhoid, pneumonia and meningitis, but also the exanthemata, osteomyelitis and many obscure septic conditions.

It is with this idea that we have thought it worth while to place on record such a limited number of cases, as have come under our personal observation in hospital and private practice, with a view to encourage others to employ this method of investigation and thus by their reports of a large number of cases to add to our knowledge of the subject.

VALUE OF BLOOD CULTURES.

A complete review of what has been accomplished by the study of blood cultures in adults would hardly come within the scope of a paper of this kind, which is intended to deal with the earlier periods of life. A few words, however, regarding what has been done in adults will indicate more clearly to what class of cases we can with profit turn our attention in children.

The value of blood cultures in children has been especially impressed on us in our hospital work in which many cases come under our care with such indefinite and misleading histories as to render any additional method of examination which we may offer as an exact means of diagnosis of the greatest practical importance. In addition to this, and according to our frequent personal observations, in many cases the clinical picture of sepsis is often present, and yet the cause of the sepsis is exceedingly doubtful. At another time we may have such a clinical picture and yet sepsis may not necessarily be present. In many cases of autointoxication, including often those known as acetonuria, the clinical symptoms are very suggestive of a severe septicemia, and though this apparent septic condition may be relieved by the administration of alkalies, it is nevertheless true that in the absence of a positive culture from the blood we are aided in the diagnosis of autointoxication.

In cases of this kind a blood culture is the only definite means by which we can determine whether sepsis is or is not present, and still further we may in this way establish the etiologic factor. This in itself constitutes a great advance in clinical diagnosis. In regard to treatment, the true value of serum therapy can never be attained until a bacteriologic examination of the blood has determined the special organism with which we have to deal.

Earlier observations on cultures of the blood were not only unreliable from a faulty technic by which the blood was allowed to become infected from external sources, but from the fact that the examinations were made with too small quantities of blood. Year by year, however, advances have been made in the technic, until now a large number of observations are undoubtedly reliable. This class of investigations has been made not only to ascertain whether a specific disease, such as typhoid fever, is present, but also if any organism may be found which could possibly be the etiologic factor of an otherwise obscure group of symptoms, also if in any of the diseases of unknown cause, but well known symptomatology, a causative organism can be found.

A large number of organisms have been found in the blood. Among these are: Many varieties of the streptococcus and staphylococcus, *Diplococcus lanceolatus*, *B. anthracis*, *B. pyocyaneus*, *B. proteus vulgaris*, *B. typhosis*, the bacillus of glanders, the spirillum of relapsing fever, Friedlander's bacillus, the bacillus of tuberculosis, the gonococcus, *Diplococcus intracellularis meningitidis*, and also the paratyphoid bacillus, the bacilli of the pest and of lepra, the vibrio of cholera, the colon and para-colon bacilli, and the bacillus of tetanus. Micro-organisms have also been found in the blood in such diseases as chorea, rheumatic fever, scorbutus and pertussis, but the specific organism in these cases has not yet been determined.

* Read in the Section on Diseases of Children of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

Thus bacteriemia, occurring from microbic infection of the blood, explains in varied degrees the phenomena exhibited in many different diseases. Sometimes, as in gonorrhea, it is followed by an arthritis or an endocarditis. It is at the same time common in typhoid fever and rather rare in diphtheria.

In connection with this subject, relating to children, it is interesting that the acute infections which etiologically we know least about, and which are therefore especially important for research, occur most frequently in children and yet the previous investigations have been carried out almost entirely in adults. Is it not time, therefore, that the attention of investigators should be turned to this fact, and every encouragement given to make blood cultures in children?

ILLUSTRATIVE DISEASES.

Typhoid Fever.—Bacteriologic examination of the blood is especially valuable in typhoid fever, and even more in young children than in adults, as the early symptoms are so much more obscure and the whole course of the disease so mild that additional evidence is frequently needed even to differentiate the disease from an anemic debilitated condition. It is also generally the fact that typhoid can be distinguished from paratyphoid fever in the early stages of the disease only by blood cultures. It is significant that the bacillus of typhoid fever is not only found in the blood in a very large proportion of cases (it is probably present in all), but that which is of great importance is that it is found very early in the disease while the temperature is still rising, and often many days before a Widal reaction is obtained. Also when the Widal reaction is doubtful, the blood culture may show a positive result. We should consider also that in a number of cases of acute miliary tuberculosis the tubercle bacillus has been isolated in the blood, and that by thus changing a doubtful diagnosis to an exact one, the prognosis has at once become very grave. Schottmüller and others have found a positive blood culture in typhoid fever as early as the first and second days of the fever, and it often may persist to the end of the third week. After distinct intermissions of the fever the bacilli of typhoid have been cultivated in the first twenty-four hours of a relapse. Burton and Coleman in a report of 21 cases of relapse in typhoid fever, obtained a positive blood culture in all but three. In three cases in which the diagnosis was supposed to be scarlet fever, Hektoen found by blood cultures a bacillus of typhoid at a time when there were no typhoidal symptoms.

Scarlet Fever.—In a report of 100 cases of scarlet fever Hektoen found streptococci in 9 per cent. of the mild cases and 27 per cent. of the severe cases. Ten per cent. of the positive results occurred in the first five days. In 237 cases of scarlet fever taken from the combined results of Slawyk, Klein, LeMoyne, d'Espine, Mery, Hektoen and Seitz, streptococci were found in 10 per cent. Jochmann made cultures in 161 cases of scarlet fever and found streptococci in 25 cases. The clinical aspect of the children who had streptococci in the blood did not differ from those other cases which were very sick, but gave negative blood cultures. Of those cases showing scarlatinal nephritis during the fever, streptococci were present in the blood shortly before death in 50 per cent. Although Slawyk reports finding streptococci in the blood in measles in 32 per cent. of his cases, nothing of a definite character has appeared in the general work on this disease.

Many observers have reported different types of streptococci or diplococci more or less carefully differentiated as the etiologic factors in scarlet fever and measles, but as yet there have been no results which would justify us in considering that the true causes of these exanthemata has been discovered. The finding of streptococci in the blood in these cases may simply be the evidence of a secondary infection as it often occurs in diphtheria, along with a general infection by the true etiologic organism.

Diseases Arising from Pneumococcus Sepsis.—Owing to the common occurrence of otitis media in young children, it is of great interest to note that investigations have shown that otitis media and we may also add, pericarditis, may be due to a primary infection with the pneumococcus and that certain cases of lobar-pneumonia seem to be a secondary localization of the primary blood infection originating in some other place than the lung. The observations of Prochaska, Bruh and Fiessinger seem to show that a pneumococcus sepsis may occur without a true pneumonia and Herrick also found a general infection in a case of pneumococcic arthritis. According to Hektoen's work, pneumococci are present in the blood of nearly all patients sick with pneumonia. Pneumococcemia, therefore, does not necessarily mean a severe type of pneumonia, but in obscure cases its recognition will be valuable in diagnosis and also in treatment when serum therapy has been more fully developed.

Cerebrospinal Meningitis.—Since Gwyn in 1899 isolated the meningococcus from the blood in a case of cerebrospinal meningitis, and Warfield and Walker reported a positive culture of the meningococcus from the blood in a case of endocarditis, a number of observations such as Elser's 41 cases with 10 positive results have shown that the disease is often a bacteriemia in the same sense as is typhoid fever. So far, however, as the diagnosis is concerned, unless the blood culture will be found to show the organism at an earlier period than does the spinal fluid, it will not be of great value, because the examination of the fluid obtained by lumbar puncture is easier and just as constant in its results.

Although some of the recent observations of Gwyn, Andrewes and Walker have described a general blood invasion in the course of cerebrospinal meningitis, our observations both in cultures from the living and at autsopy, agree with the opinions of Netter, Councilman, Heubner and Weichselbaum, that this organism very rarely occurs in the circulating blood. Elser's observations showed that where one method failed, the other did also. Judging, however, from Elser's work, cases of cerebrospinal meningitis were most severe and offered the worst prognosis when the cocci were found in the blood.

PRACTICABILITY IN EXAMINATION OF YOUNG CHILDREN.

Many more illustrative diseases could be spoken of which would show that the clinical bacteriology of the blood should be more thoroughly studied, and will probably in the future be of greater value. At present, however, we are especially concerned with the practicability of this method in the examination of young children. Can it be done as frequently in children as in adults? Are there any objections to it? It has been so often stated that the proper technic could not be carried out in young children on account of anatomic difficulties that we have tried to determine whether this statement is correct by having the veins of many infants and children examined with reference to this point.

Our observations were made mostly at the Children's and Infants' Hospitals. The arms were examined in

680 cases and tabulated so as to show the percentage of cases of each age in which the technic could be carried out with a reasonable prospect of success. The youngest positive case is 6 months old but we have succeeded in obtaining sufficient blood for our cultures from the arm of a child even younger than this, and Hummell has succeeded in an infant 5 days old. It must be understood, however, that such a method of determination is only a provisional one and that an actual trial in the special case is necessary to prove whether the blood can be obtained or not. For instance, we have found that when apparently it would be impossible to introduce the needle successfully, it has been done easily, and sometimes, though much less commonly, the reverse has happened. Of the 680 cases under the age of 13 years, that were examined with regard to the possibility of easily obtaining sufficient blood for a culture, 39 per cent. were positive and 61 per cent. negative. In the first four years the positive cases were 21 per cent. and the negative 79 per cent. In the second four years the positive cases were 72 per cent. and the negative 28 per cent. And in the last group, which included the five years from 8 to 13, the positive cases were 86 per cent and the negative 14 per cent. This seems to show that though the younger the child, the less likely will a blood culture be possible; yet in a large number it is possible, and it should be attempted when any important information may be obtained.

As the number of diseases spoken of in this paper at any length in which blood cultures have been made is very small, and is merely mentioned for purposes of illustration, we have appended a list of the articles from which we have drawn our conclusions concerning the cultures made from living blood, and hope that this literature may be of service to those who are interested in the subject.

TECHNIC.

In reviewing the work that has been done in studying the bacteriology of the blood, we have seen many conflicting statements and often the etiologic importance of many organisms has been claimed without sufficient proof. Observers have undoubtedly been led by their enthusiasm to form conclusions with much too meager proof of their convictions. Through a lack of knowledge of bacteriology many have failed in their work, but probably the unreliability of most of the results and the little confidence that we can repose in them is due to a faulty technic in the taking of the blood and the growing of the cultures.

Sufficient quantity of blood may be procured by cupping (Petruschky), but the chance of contamination is great. Immediate animal inoculation with the blood from a patient is rather impractical and not necessary. The simple method of aspirating a superficial vein with a canula or syringe is satisfactory from nearly every point of view. In adults, except in extremely anemic cases, and a rare individual with a very anomalous venous system, one can always procure sufficient blood with little difficulty.

Our list of cases shows the probability of obtaining a good amount of blood in children and our practice has led us to believe that these percentages are rather low, for many of the cases in which the superficial examination of the veins gives little promise of success, turn out to be favorable when the attempt is made. After a careful examination of the superficial veins of many children it is clearly evident that at the bend of the elbow is offered the best opportunity for procuring blood. In the groin or the popliteal space one may find superficial veins but the chance of causing a hematoma by wounding an artery is possibly greater. Though this may be considered, we know of no case in which it has occurred, and indeed as the vein itself is often pushed aside by the needle, the chances are that an artery would be in little danger of being injured. At all events, the only case in which we have seen any trouble from subsequent hemorrhage was in the aspiration of a child with hemophilia, after which a hematoma of considerable size formed, but under a bandage it quickly disappeared and no ill results followed. Generally, the needle enters the vein and the blood is slowly sucked into the syringe, and when this is removed the walls of the vein collapse, and there is no need of any dressing or bandage to stop the bleeding. Occasionally, the needle wounds or tears a vein or, entering it, slips out again before the blood is drawn, and in these cases we may obtain the blood from a small hematoma which immediately becomes visible. In such cases we have had little difficulty in obtaining the blood or in stopping the subsequent hemorrhage.

We know that there is nothing to fear and that there will be no ill results if this procedure of taking the blood is carefully followed. There is no danger of severe bleeding, and there should be no danger of infecting the patient because unless we can be sure of carrying out the whole process in a perfectly sterile manner, there is no use in making bacteriologic examinations of the blood. We all know, however, that it is rare that an extraneous infection results from the use of the hypodermic or antitoxin needle which often is not too carefully sterilized. Though we have yet to learn of the infection due to the taking of blood from a vein, we mention this fact because the question is often brought up.

METHODS.

The skin about the elbow should be scrubbed with soap and water and then with ether and alcohol and a corrosive pad tied on. No further precaution than this is necessary as there is little chance that the point of the needle will carry in any infectious organism.

Occasionally we have used ethyl chlorid but have found that it caused a superficial anemia and lessened the chances of obtaining sufficient blood. The pain of the needle is slight and short and in children it is the fear of what is going to be done rather than the act that hurts. An assistant places a gauze bandage, towel or rubber Esmarch strip about the arm a few inches above the elbow. This is passed around only once so that it can be loosened or tightened at will. By bending the elbow, rubbing the forearm and occasionally loosening and constricting the bandage, the distension of the veins may be accelerated. We have not found that a hot compress applied beforehand is of any advantage in causing greater distension of the veins.

A simple glass antitoxin syringe (holding 15 to 25 c.c.) with asbestos packing and the ordinary needle serves every purpose. This can be easily and thoroughly sterilized and the needle being attached by short rubber tube (the shorter the better) allows flexibility. The most important thing is to have a perfectly air-tight syringe. We have sometimes sterilized large test-tubes sealed with a cork stopper through which pass two small glass tubes plugged with cotton. One of these is connected with an aspirating syringe and the cotton is removed from the other, and the short rubber tube with the needle is attached. By this method one can keep up a continuous and perfect suction and the difficulties

experienced with a leaky syringe are obviated. This method is of especially great advantage in aspirating the heart after death when considerable suction is often needed.

The needle or canula is thrust into the skin in a line with the vein, which may be steadied between the thumb and finger to prevent its rolling to one side. The most prominent of the veins is chosen and this varies in different individuals. It is immaterial whether the needle be directed up or down the arm. If the first thrust does not strike the vein, the needle can be partly withdrawn and another attempt will generally find the vessel. Occasionally we have failed and subsequently tried a less prominent vein and been successful. Out of 42 cases attempted in children, sufficient blood has been obtained 36 times.

Often in surgical cases we have availed ourselves of the excellent opportunity offered at operation to obtain considerable blood in a syringe without using the needle. In cases in which the knowledge obtained by blood culture might be expected to be of great importance in diagnosis or treatment, and there is difficulty in obtaining the blood in the usual manner, a vein can be laid bare by open incision, and the blood easily secured. To insure a satisfactory examination one should take at least 5 c.c. of blood. In many cases we have easily obtained 15 to 20 c.c. and have often obtained positive cultures from less than 1 c.c.

The culture media should be immediately inoculated with the blood and this is best done by cutting the rubber tube with sterile scissors and squirting directly into the culture tubes. If it is attempted to do this through a needle, clots may have formed even in a minute or two, which will block the passage. If agar plates are to be used, of course, a media must be ready at the bedside at a temperature of about 44 C. In most of our cases we have used four agar plates, four bouillon tubes and two or three small flasks containing about 30 to 40 c.c. of bouillon. The bouillon has been both plain and glucose, made from lean beef and this has been also used as a basis for the agar. Blood serum tubes sometimes smeared with fresh human blood have also been used in certain cases. It has been our experience that bouillon is the most satisfactory for immediate inoculation and that agar plates can be made from this a few hours or a day later, either before or after a visible growth has appeared. In such case a media with extra high percentage of agar was used to make up for the bouillon added. We have found that the small flasks holding 30 to 50 c.c. of bouillon were most satisfactory as in these the blood was sufficiently diluted to lessen any bactericidal properties that it might possess. The ordinary tube or plate should be inoculated with 0.5 c.c. of the blood, but when any considerable quantity can be obtained we have inoculated the bouillon flasks with 2 to 3 c.c. These cultures have been placed in the thermostat at the body temperature and studied in the usual manner to determine the identities of the organisms.

The only cases that we mention of aspiration of the heart were done within a very short time after death. Canon and others have shown that even in removing the body from the ward a spread of the organisms may take place. But as these cases were done in children which are easily carried and in whom it is very simple to reach the heart with a needle, the results are probably quite reliable. In these cases the technic was in every way the same as in the others except that the long aspirating needle connected with the sterile test-tube and the aspirating syringe were used. It was easy to reach the heart in the fourth intercostal space, either just to the right or the left of the sternum and there was little danger of infection from the pleural cavities.

LIST OF CASES.

CASE 1.—Osteomyelitis. Patient 4½ years old. *Streptococcus pyogenes.* Died.
CASE 2.—Unresolved pneumonia and empyema. Patient 6 years old. Pneumococcus. Recovered.
CASE 3.—Bronchopneumonia and septic phlebitis. Patient 7 years old. *Streptococcus pyogenes.* Died.
CASE 4.—Bronchopneumonia. Patient 7 years old. Negative result. Recovered.
CASE 5.—Pneumonia with general septicemia (?). Patient 2½ years old. Negative result. Recovered.
CASE 6.—Dermatitis medicamentosa (bromid). Patient 11 years old. Negative result. Recovered.
CASE 7.—Acute lymphatic leukemia. Patient 9 years old. Negative result. Died.
CASE 8.—Rheumatic pericarditis. Patient 9 years old. Negative result. Recovered.
CASE 9.—Diabetes insipidus. Patient 3½ years old. Negative result. Died.
CASE 10.—Hydrops articularis intermittens. Patient 8 years old. Negative result. Recovered.
CASE 11.—Acute serous arthritis. Patient 6 years old. Negative result. Recovered.
CASE 12.—Pneumonia (fifth day). Patient 5 years old. Pneumococcus. Recovered.
CASE 13.—Endocarditis. Patient 6 years old. Negative result. Recovered.
CASE 14.—Acute arthritis. Patient 7 years old. Negative result. Recovered.
CASE 15.—Acute arthritis. Patient 6 years old. Streptococcus. Recovered.
CASE 16.—Chronic and acute arthritis. Patient 9 years old. Negative result. Recovered.
CASE 17.—Typhoid. Patient 6 years old. (Twelfth day.) Positive. Recovered.
CASE 18.—Typhoid. Patient 10 years old. (Eighth day.) Positive. Recovered.
CASE 19.—Typhoid. Patient 8 years old. (Fourth day.) Positive. Recovered.
CASE 20.—Typhoid. Patient 9 years old. (Seventh day.) Negative. Recovered.
CASE 21.—Typhoid. Patient 7 years old. (Fifth day.) Positive. Recovered.
CASE 22.—Typhoid. Patient 10 years old. (Sixth day.) Negative. Recovered.
CASE 23.—Typhoid. Patient 9 years old. (Seventh day.) Positive. Recovered.
CASE 24.—Typhoid. Patient 6 years old. (Sixth day.) Positice. Recovered.
CASE 25.—Acute endocarditis. Patient 7 years old. Pneumococcus. Recovered.
CASE 26.—Chronic endocarditis, during acute attack. Patient 12 years old. Negative result. Died.
CASE 27.—Rheumatism with functional heart murmur. Patient 9 years old. Negative result. Recovered.
CASE 28.—Chorea. Patient 10 years old. Negative result.
CASE 29.—Chorea. Patient 11 years old. Negative result.
CASE 30.—Chorea. Patient 7 years old. Negative result.
CASE 31.—Peritonitis. Patient's age not known. *Streptococcus pyogenes.* Died.
CASE 32.—Acute idiopathic peritonitis. Patient 2 years old. Pneumococcus. Died.
CASE 32.—Acute suppurative hip. Patient 9 years old. *Staphylococcus pyogenes aureus.* Died.
CASE 34.—Cerebrospinal meningitis. Patient 6 years old. Negative. Died.
CASE 35.—Cerebrospinal meningitis. Patient 3 years old. Negative. Died.
CASE 36.—Cerebrospinal meningitis. Patient 3 years old. Negative. Died.

CULTURES MADE POSTMORTEM.

CASE 37.—Endocarditis. Patient 5 years old. Streptococcus.
CASE 38.—Peritonitis, after appendectomy. Streptococcus.
CASE 39.—Osteomyelitis (hip), *Staphylococcus pyogenes aureus.*
CASE 40.—Acute endocarditis. Patient 6 years old. Pneumococcus.
CASE 41.—Chronic endocarditis. Patient 9 years old. Negative.
CASE 42.—Cerebrospinal meningitis. Patient 4 years old. Negative.
CASE 43.—Acute miliary tuberculosis. Patient 3 years old. Negative.
CASE 44.—Tuberculous meningitis. Patient 5 years old. Negative.

Of the fifteen positive cases in this series, in all except those of typhoid fever, two cases of pneumonia, and one of arthritis, the patients died within a few days. There is too small a number of cases of any one disease to allow us to draw any very definite conclusions.

Case 1 is of sufficient importance to deserve a special notice.

History.—The child had suffered from an aural discharge for six months. Two weeks before admission the discharge increased and in the preceding five days the patient had vomited frequently, complained of frontal headache and tenderness in the left shoulder and right hip, and had a high fever

at night. The child was fretful and extremely hyperesthetic. The enlargement of the right thigh, the *x*-ray examinations and other general symptoms all pointed to osteomyelitis. Later the pain in this thigh and knee became extreme, and the leg was swollen and glossy. The leucocytosis was only 16,000.

Operation.—An operation just above the right internal condyle showed only edema and no purulent affection of the bone or periosteum.

Blood Cultures.—On the eighth day 18 c.c. of blood were taken from the arm and 20 plants made in various media. Of these 14 showed a profuse growth of streptococci in long chains. Throughout many replants this organism did not change in form, and in every way coincided with *Streptococcus pyogenes*, except that it proved to be only very slightly pathogenic to guinea-pigs. Of six inoculations the only one that died was when a very large amount of the culture was inoculated. A later blood culture gave the same organism. The child grew gradually worse and died eight days later.

Autopsy.—At autopsy thick yellow pus was found in the right and left hip joints, right knee joint, the right sternoclavicular joint, the left shoulder joint and the right middle ear. These all showed pure cultures of streptococcus except the right hip and the right ear, in which *Staphylococcus pyogenes aureus* was also present. There was also an acute serofibrinous pericarditis from which pure cultures of the streptococcus were obtained.

Antistreptococcus serum was given in this case after blood cultures were made. Here was a case which appeared to be clinically either an osteomyelitis or possibly meningitis, and the blood culture determined the general septicemia. Considering the length of time that this child combated a general blood infection with the streptococcus, the organism was probably of very low virulence and if blood culture had been made sooner, serum treatment might have been successful.

Some of the other cases were of value in suggesting treatment, but many only aided in determining the diagnosis. The cases of typhoid fever showed a Widal reaction in all but one instance and the positive blood cultures were thus only confirmative. In one old case of empyema the presence of the pneumococcus was interesting. The value of the recognition of this organism in the blood in pneumonia is evidently in the prognosis and can be of but little aid at present in the treatment. With a better knowledge of the antitoxic sera the value of blood examinations may be increased. These cases have been examined not with any idea of studying one disease or group of diseases, but to obtain some statistics relative to the practicability and value of blood cultures in children. Few of our patients have died and so the percentage of positive results is quite small, and of course in many there was a very slight chance of finding any organisms present. Many of these cases have been obscure as to diagnosis or etiology, and the cultures have served a little in clearing the field of possibilities.

We believe that with our present technic, a negative culture is of value in prognosis, if not in diagnosis and treatment. The early results of many observers who used too little blood and others who found *Staphylococcus albus* as a factor in many cases of septicemia must be doubted. In these early observations many organisms were found and now with more careful and thorough technic investigators have fewer positive results. One is led to doubt the value of the work done by those who claim to find new causative organisms constantly in the blood, especially as they have been reported in scarlet fever and various rheumatic or arthritic conditions. In making bacteriologic examinations of the blood or fluid from the joints or spinal canal, too much care can not be exercised to prevent contamination.

In the later stages of chronic diseases as phthisis, various organisms have been reported in the blood which are probably secondary invasions, similar to the so-called "agonal invasions of the blood" which occur in debilitated conditions when the weakened resistance of the individual fails to overcome the invading organism. The value of blood cultures in which the results are positive is generally recognized, and in children their value is probably greater than in adults. In spite of the difficulties of obtaining the blood in some cases the percentage of practical results in children may prove to be greater than in adults.

The cases in which bacteriologic examination of the blood promises much help are those obscure conditions of so-called "cryptogenetic septicemia" and autointoxication. The great number of cases of endocarditis, chorea, arthritis, and obscure septic infections which occur in children uncomplicated by other chronic disease, offers a large field for the application of this means of diagnosis with a view to the treatment, prognosis and interpretation of the cause of the disease.

BIBLIOGRAPHY OF BLOOD CULTURES.

"Importance of Bacteriologic Examination of the Blood After Death," Jour. Comp. Path. and Therap., 1905.
Bull. de l'Institut Pasteur, iii, p. 695.
Atkins, J.: "The Value of Examination of Blood in Typhoid Fever," West London Med. Jour., London, x, pp. 287 to 289.
Auchi: Arch. de méd. expér., 1899, xi, p. 521.
Auerbach: Deutsch. med. Wochschr., Dec. 6, 1900.
Achard and Phulpin: Arch. de méd. expér., 1885, vii, p. 25.
Andrewes, F. W.: "Meningococcæ Septicæmia," Lancet, London, 1905.
Beco: Ann. de l'Institut Pasteur, 1885, ix, p. 199.
Bernheim: Jahrb. f. Kinderlk, 1896, xlii, 208.
Blum: Münch. med. Wochschr., 1893, xl, 323.
Brunner: Wien. klin. Wochschr., 1896, iv, pp. 371, 391.
Badneland Gargano: Gazetta degli Ispedali e delli Cliniche, Jan. 4, 1903.
Band and Simonelli: Ztschr. f. Bakt., xl, No. 1.
Brieger: Charité-Annalen, 1888, xiii, p. 198.
Baduel: Centrbl. f. Allg. Path. u. Path. Anat., July 18, 1900.
Bell, J.: Brit. Med. Jour., March 5, 1904.
Boston: "Clinical Diagnosis."
Bruh and Fiessinger: Med. Rev., viii, p. 251.
Boldman, C.: N. Y. Path. Soc. Proc., 1905, v, No. 3.
Bolton: Jour. of Path. Bact., February, 1901, vii, p. 137.
Canon: "Bacteriologic Examination of the Blood After Death," Centrbl. f. Allg. Pathol., 1903, xiv, 165.
Canon: Mitteil. a. d. grenzebieten, Jena, x, pp. 3 and 4; also Deutsch-Ztschr. f. Chir., 1893, xxxvii, p. 571.
Cabot: "Clinical Exam. of the Blood," pp. 45, 46, 196, 197, 221, 237, 238.
Carey: Jour. Med. Res., vi, 1903.
Cole: "Typhoid," Bull. Johns Hopkins Hosp., July, 1901, p. 203.
Coleman and Buxton: "Bact. of Blood in Typhoid," N. Y. Path. Soc. Trans., 1904, No. 4, p. 1.
Coleman and Buxton: "Bact. of Blood in Typhoid," Med. and Surg. Rep., Bell. Hosp., N. Y., 1905, No. 1, pp. 97 to 112.
Coleman, W.: "Impossibility of Differentiating So-called Paratyphoid from Typhoid Fever Except by a Bact. Exam. of Blood," Med. News, N. Y., 1905, lxxxvii, p. 340.
Cohn: Deutsch. med. Wochschr., 1897, No. 9.
Courmont: Semaine Med., No. 1, 1902.
Courmont and Lesieur: Soc. Med. des Hôp., Dec. 5, 1902; also La Med. Mod., Dec. 10, 1902, p. 407.
Castellain, A.: Centrbl. f. Bact., 7th Abt., xxxi, pp. 477 to 479.
Carlo Gomba and Carlo Giarre: Arch. f. Kinderhlk, xxvi, p. 450.
Curschmann: Münch. med. Wochschr., 1903, No. 35, p. 1534.
Courmont, J.: De Phys. et Path. et Path. Gen., 1903, v, pp. 331 to 340.
Colm: Deutsch. med. Wochschr., 1897, No. 9.
Councilman, Mallory and Wright: 1898. "Epidemic Cerebrospinal Meningitis," Boston.
Chvostek: Wien. klin. Wochschr., 1896, ix, p. 1143.
Czerny, A.,: Jahrb. f. Kinderhlk, 1894, xxxviii, p. 430.
Czerniéwski: Arch. f. Gyn., 1888, xxxiii, p. 73.
Da Costa: "Clinical Hematology," 1901, p. 111.
Delestré: Arch. f. Kinderhlk., xxxv, p. 341 and 342; also Ann. de Gyn., 1901, lv, p. 51.
Duffy, Ralph: "Cultures from the Blood in Typhoid. Report of an Examination of 88 Cases," THE JOURNAL A. M. A., 1905, xlv, pp. 1558-1560.
Duval: Jour. Exper. Med., 1903, vi.
Elser: "Contribution to Study of Epidemic Cerebrospinal Meningitis," Jour. Med. Res., November, 1905, xlv, p. 89.
Ernst, P.: Ftschr. d. Med., 1889, vii, p. 161.
Ewing: Med. Rec., April 4, 1903.
Fischl: Ztschr. f. Heilk., 1894, xv, p. 1.
Fox, H.: "Blood Cultures in Typhoid," Proc. Path. Soc. Phil., 1902-3, n. s., vi, pp. 185 to 188.
Ferguson, A. R.: "Pathogenesis of Enteric Fever with a Statement Regarding Condition of Blood in the Disease," Glasgow Med. Jour., 1905, lxiv, pp. 249 to 252.
Fraenkel: Centrbl. f. Klin. Med., 1885; also Deutsch. med. Woch., xxvii, p. 298.
Flexner: Jour. Exper. Med., 1896, i, p. 559.

Friedländer: Ftschr. d. Med., 1884, ii, 333.
Gwyn, N. B.: "Comparison Between Results of Blood Cultures Taken During Life and After Death," Jour. Infect. Dis., Chicago, 1905, ii, pp. 514 to 528; also "Case of General Infection by Dip. Int. of Welch," Johns Hopkins Hosp. Rpts., 1899, p. 112; Johns Hopkins Hosp. Bull., 1898, ix, 54; ibid., 1905.
Grawitz: Charité-Annalen, 1894, x.
Goldscheider: Deutsch. med. Wochsch., 1892, No. 414.
Garre: Ftschr. d. Med., 1885, iii, p. 165.
Hayashikawa: Ztschr. f. Heilk., 1903, p. 24.
Haughton, H .A.: "Bact. of Blood in Sepsis," Post. Grad., N. Y., 1903, xviii, pp. 755 to 777.
Hektoen, L.: "Notes on Typhoid," Med. News, N. Y., Sept. 26, 1903; also Ill. Med. Jour., v, p. 65; THE JOURNAL A. M. A., March 14, 1903; Pamphlet, Memorial Inst. Infect. Dis., 1903; Wis. Med. Jour., 1903, ii, p. 157.
Hewlett: Med. Rec., Nov. 30, 1901.
Horder, T. J.: "Observations on Blood Cultures," Practitioner, 1905, lxxv, No. 5, p. 611; "Bact. of the Blood; Its Value in Diagnosis and Treatment," St. Barth. Hosp. Jour., Lond., 1904-5, xii, Supp. 1-4, 1 pl.; Lancet, 1905, p. 1134.
Harris and Johnson: Lancet, Jan. 31, 1903, p. 321.
Harris and Kerr: Chicago Med. Rec., Oct. 15, 1902.
Hunter, C. H.: Report of a Case of Typhoid with Blood Culture, Northwest Lancet, 1904, xxiv p. 127.
Huber: Centrbl. f. Inn. Med., xxiii, p. 417.
Horton-Smith: Lancet, March and April, 1900.
Hauser: Ztschr. f. Heilk., 1897, xviii, p. 421.
Heubner: Jahrb. f. Kinderheilk., 1896, xliii, p. 1.
Hewelke: Abstract in Centrbl. f. Bakt., 1896, xix, p. 563.
Jochmann, G.: Deutsch. Arch. f. klin. Med., lxxvii, p. 211; also Arch. f. Kinderhlk., xxxviii, 1904, p. 275.
Jehle: Ztschr. f. Heilk., 1901, xxii, p. 140; ibid., p. 190.
James: Med. Rec., N. Y., liii, p. 747.
Kinsley, F. C.: THE JOURNAL A. M. A., March 19, 1904; also "Examination of Blood of Pneumonic Patients for Pneumococci," THE JOURNAL A. M. A., 1904, xlii, p. 759.
Kühnau: Deutsch. med. Wochschr., 1893, xix, p. 816; also Ztschr. f. Hyg., 1897, xxv, p. 492.
Kerr and Harris: Chicago Med. Rec., Oct. 15, 1902.
Kohn: Deutsch. med. Wochschr., xxiii, p. 186.
Kraus: Berl. klin. Wochschr., 1904, No. 19; also Ztschr. f Heilk., 1896, xvii, p. 117.
Landi and Cionini: Deutsch. med. Wochschr., 1901, v, p. 296.
Lesue, M.: Arch. f. Kinderhlk., xxvi, 1899, p. 454.
Libman, E.: Proc. N. Y. Path. Soc., iii, No. 1; also ibid., N. S., 1903, iii, p. 57; Jour. Med. Res., 1901.
Lesieur: Bull. de l'Institut. Pasteur, ii.
Lemiere: Compt rendu de la Soc. de Biol., No. 7, 1903, p. 1296.
Mya, G.: Arch. f. Kinderhlk., xxvi, 1899, p. 450.
Netter: Arch. gen. de med., 1887, i, p. 257.
Novy: Am. Jour. Med. Sci., October, 1901, p. 417.
Neuhauss: Berl. klin. Wochschr., June 14, 1886, No. 23, p. 389.
Nichols: Am. Med., vi, p. 102.
Neumann: Berl. klin. Wochschr., 1888, p. 1843.
Poynton and Paine: "Etiology of Rheumatic Fever," Med. Press and Circular, May 13, 1903; also Lancet, 1900, ii, p. 861.
Prochaska: Centrbl. f. inn. Med., 1900, No. 46; also Deutsch. Arch. f. klin. Med., xxx, p. 559; Virchow's Arch., No. 169, 1901, pp. 492 to 506.
Pieraccini: Centrbl. f. allg. Path., 1900, xi, p. 470.
Posner and Lewin: Berl. klin. Wochsch., 1894, p. 742.
Richards, G. M. O., and Hunt, L.: Lancet, Sept. 30, 1905.
Robinson, G. C.: "Bact. Findings in Fifteen Cases of Epidemic Cerebrospinal Meningitis," Jour. Am. Med. Sci., April, 1906, cxxxi, p. 603.
Rolly: Jour. Trop. Med., 1904, p. 271.
Rosenberg: Am. Jour. Med. Sci., cxxvi, p. 234; also "Bact. of Blood," Proc. Path. Soc. of Philadelphia, vi, p. 157.
Rosenow, E. C.: THE JOURNAL A. M. A., xlix, p. 811; also Jour. Infect. Dis., 1904; "Blood Cultures in Pneumonia," Trans. Chic. Path. Soc., v, p. 265.
Ruediger, E. H.: Trans. Chicago Path. Soc., 1901-3, v, p. 187.
Ruata, Guido Q.: Il. Policlinico, x, 1903.
Rosenbach: "Mikroorganismen bei den Wundinfectionskrankheiten des Menschen." Weisbaden, 1884.
Shoemaker, B. M.: "Newer Methods of Blood Examination for Typhoid, with Demonstration," Jour. Missouri State Med. Assoc., September, 1905.
Slawyk: Jahrb. f. Kinderhlk., liii, 1901, p. 505; ibid., lili, No. 5, p. 15.
Schottmüller: Münch. med. Wochschr., Sept. 23, 1902, xlix, p. 156; also Deutsch. med. Wochsch., Aug. 9, 1900.
Silvestruni: Centrbl. f. allg. Path., 1900, xi, p. 447.
Sahli: "Medical Diagnosis," p. 653.
Sittman: Deutsch. Arch. f. klin. med., 1894, p. 573; also ibid., p. 323.
Sänger: Deutsch. med. Wochschr., 1889, p. 148.
Simmonds: Virchow's Archiv., 1904.
Still, G. F.: "Practice," lxxiv, p. 217.
Troussaint: La Med. Mod., Feb. 11, 1903, p. 44.
Tombleson: Lancet, Aug. 29, 1903.
Tidmann, G.: Arch. f. Kinderhlk., xxxviii, 1904, p. 275.
Wadsworth: Jour. Med. Res., 1903.
Washbourn: Lancet, Lond., 1902, p. 163.
Weaver: Jour. Infect. Dis., 1904.
Warfield: Bull. Ayer Clin. Lab. Penn. Hosp., October, 1903; also Bull. Univ. of Penn. Med., July-August, 1903; also Ayer Clin. Lab. Phil., 1903-4, No. 1, pp. 77 to 80; Johns Hopkins Hospital, Bull, July, 1902.
White, F. W.: "Cultures from Blood in Septicemia," Jour. Exp. Med., 1899, iv, p. 425.
Woolstein: Jour. Exp. Med., 1905, vii, p. 335; also THE JOUENAL A. M. A., xliii, p. 738.
Welchselbaum: Ftschr. d. Med., 1887, v, pp. 573 and 620.

DISCUSSION.

DR. E. E. GRAHAM, Philadelphia, said that often a physician is confronted by a case in which the differential diagnosis of a septic and a non-septic condition is difficult. Blood cultures are of distinctive value whether or not a special organism is found. If the case is suspected of being tuberculous it is possible to find the tubercle bacillus, but not finding it does not necessarily prove that the case is not tuberculous. Many cases of concealed pneumonia are cleared up by finding pneumococci. Many cases of typhoid fever in which it would be practically impossible to arrive at a positive diagnosis have been immediately cleared up by blood cultures.

DR. T. R. ROTCH, Boston, emphasized the fact that merely finding the pneumococcus in the blood does not show the patient to have pneumonia. Especially in very young children, with symptoms pointing to pneumonia, is this true, because the symptom of this disease may be of reflex origin and the source of the pneumococcus infection may be outside the lungs. There may be a pneumococcemia and pneumonia not present. Very often a pneumococcus otitis media may cause the presence of the micro-organism in the blood. In acute lobar pneumonia the pneumococcus is almost universally found.

A PHYSICIAN'S CREED, PAST AND PRESENT, AS TO THE PHYSIOLOGY OF THE HEART.*

WESLEY MILLS, M.A., M.D.
Professor of Physiology, McGill University.
MONTREAL, CANADA.

When honored by the American Medical Association with an invitation to become its guest and to contribute to its program, I cast about to consider in what way I could be of most use to those who might do me the further honor to read my paper when published.

In my opinion, physiologists and physicians have stood too much apart. Although the American Physiological Society has held meetings for a great many years in the different great centers of the country, but few physicians ever attend those meetings or even read the reports of the papers presented, probably because they are usually published in periodicals other than medical.

In most instances teachers of physiology to-day are not men in active medical practice, while many never were doctors, except academically. This has its advantages, but also some disadvantages. Physiology as such, even yet, it is to be feared, is only occasionally brought before the student in the wards of the hospital or elsewhere when once he has passed the examinations on the primary subjects; while the medical investigator has been so occupied with morbid anatomy and bacteriology that a physiologic medicine in the sense of one pervaded through and through with the conception that disease is altered function and the whole of medicine a study of this changed function, can not be said to be the dominant state of mind even yet, though one sees hopeful signs that progress is being made toward it.

Holding these views, I felt the desire to make some contribution that might be directly helpful to the practicing physician and surgeon; for the latter, still more than the former, is apt to indulge in the belief that physiology is somewhat superfluous for his purpose, though I may point out that the surgeon who in our time has contributed most to the advancement of his art, Sir Joseph Lister, was himself a practical investigating physiologist, a fact which has made itself felt throughout his whole career.

---

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

Having lived through 25 years of the development of physiology, I propose to discusss or, at least, to indicate some of the movements which seem to me to have marked its evolution in one of the departments with which I am most familiar by reason of actual practical work, viz., the development of the physiology of the heart; and you will understand that my paper is intended for the practitioner rather than the physiological specialist, for whom such an exposition might seem a work of supererogation.

I think that the history of the whole of physiology will show that its development has been determined to a large extent by the fact that, till comparatively recently, its very existence was dependent on and limited to study in connection with medicine. As a separate and independent branch studied, as geology or zoology, for its own sake, it was practically non-existent. There were consequent limitations from which the science suffers to a certain extent to the present hour. But that all-fertilizing conception of evolution at length began to tell and the result was the investigation of physiology in a comparative way, though it must be confessed that even yet progress has been but moderate. I know of nothing that would so advance medicine to-day as the establishment of some vast institution for the study of comparative physiology and pathology. In this direction there is room for some Carnegie to do for science and the race a service surpassed by few, if any, of the large undertakings of recent years.

HISTORICAL REVIEW.

The first great school of modern physiology was that of Leipzig under Ludwig. It was the Mecca to which every physiologist of 25 or 30 years ago made his pilgrimage and for a time worked under the master. Questions of blood pressure were so new and so fascinating that physiology tended to become somewhat mechanical. The text-books of physiology of 25 years ago, including that of the head of the best school for the science in England, that of Cambridge, held before the student the ideal of physiology as the physics and chemistry of the animal body and taught that vital processes were largely determined by blood pressure. As a natural consequence students and doctors turned to mechanical explanations to meet a large portion of cases of cardiac aberration.

As stimulation of the vagus arrested the heart's action, what more natural than to believe that the beating of the heart also was in some way dependent on nervous influence, such influence being closely akin to that of a motor nerve over its muscle?

But about that date a notable change came over cardiac physiology by reason of an extension of its field. Till then physiologists had been accustomed to work on certain of the domestic animals, notably the rabbit, the cat and dog, together with the frog, which might be counted for the physiologist almost as one of the domestic animals; certainly they did not for long at one time part company. A new era was begun when, leaving the frog, Gaskell began to study the heart of the land tortoise. He showed that the vagus in the tortoise can not alter the force of the ventricular contractions as in the frog. But the great contribution by Gaskell consisted in the wholly changed views he prepared as a result of his work in regard to the nature of the heart-beat. Up till then the beat had been thought to be of nervous origin; Gaskell maintained that it was wholly of muscular origin; a myogenic was substituted for a neurogenic theory.

The beat was seen to begin in the sinus venosus and was believed to be conducted wholly by muscular fibers on to the ventricles. It followed from this that if there were any independent rhythm of each part of the heart beyond the sinus, it must be of muscular origin. Gaskell thought he had showed conclusively not only that the ventricle of the tortoise had the power of spontaneous independent rhythmicity, but that even strips of the same, if suspended in a moist chamber, would also contract rhythmically. Here, then, was a complete change of view and from then till now physiologists have almost with one accord the world over believed in a myogenic theory of the heart beat.

Gaskell had been the leader in England, with his views fully accepted in America, perhaps in part due to the influence of Newell Martin of the Johns Hopkins University, who was himself of the Cambridge school of physiology. Engelmann has held a somewhat similar position in Germany. From the first I was myself one who could not wholly accept the new views, and I shall show that many years later others came to question some of them.

The successful physiologic and anatomic isolation of the mammalian heart by Newell Martin in 1881 permitted the testing of many principles and was regarded at the time as an astounding achievement, largely because of the views then prevalent as to the neurogenic origin of the heart-beat, etc. This work and that of Gaskell more especially prepared the way for other important researches.

More than 20 years ago Ransom carried out interesting and important researches on the hearts of certain invertebrates, notably on that of the poulp (*Octopus vulgaris*). He maintained that no ganglion cells could be found in the walls of the heart of this animal, a fact then rightly deemed of great significance because ganglia had almost till then been regarded as essential to the beat, while the doctrine of independent rhythm for each part of the heart was strengthened by the demonstration that in the poulp the auricles and ventricles were "physiologically isolated."

One of Gaskell's contributions drew attention to the profound modifications of the nutrition of the heart of the tortoise under vagus stimulation. He denominated the vagus the "trophic" nerve of the heart. Although these views have been somewhat lost sight of since, they appealed to myself long ago because by independent work I had been brought in the most convincing way to the same conclusion. Indeed, this view of vagus action I regard as perhaps Gaskell's most permanent and valuable contribution to heart physiology, for it is likely applicable in all animals that have a vagus heart supply.

It was natural that physiologists should wish to learn whether the new views on the hearts of cold-blooded animals were applicable to the hearts of mammals. Accordingly we find that McWilliam, about 18 years ago, published important papers on the mammalian heart. He does not seem to have been so carried away by the brilliant researches of the Cambridge school as the majority of his physiologic colleagues. He deemed conduction by nerves as at least possible if not proven. His researches showed, on the whole, that the heart of the mammal was much more like the hearts of the cold-blooded animals than had been suspected, and this marked one of the great advances to which he and Newell Martin had been chief contributors.

McWilliam had shown that in the fish there is an extraordinary susceptibility to reflex cardiac inhibition

and especially in some fishes to reversed action, reminding one of reversed intestinal peristalsis. He showed that this was also possible in the mammalian heart. He demonstrated the existence of an independent ventricular rhythm in the mammal and thought it was myogenic in some instances; but he also reminded us that what may be and what is are two different things, a fact which, I think myself, has been too frequently forgotten by physiologists and other laboratory workers. McWilliam also drew attention to the profoundly altered condition of the heart under vagus stimulation, pointing out that its excitability was greatly diminished and particularly in some animals.

But all this time physiologists were realizing more and more the dependence of the more recently evolved parts of the heart on the older and less differentiated ones. Whether the ventricle could beat independently was a minor matter. The important fact was that the other parts of the heart set the pace and it simply kept step. This is one of the most important principles of cardiac physiology and is beginning to play a greater part in the explanations of disorders of the heart, notably those of the nature of irregularities in the beat.

For the medical man the work of Roy and Adami has a special interest, because much of it was done with his needs distinctly in view, unusual precautions were taken to keep the heart under tolerably natural conditions and the work was largely done on the dog's heart, which greatly resembles that of man physiologically, we have reason to believe. In 1888 these investigators published views on heart strain in which the mechanical element was made very prominent; but in their paper on the physiology and pathology of the mammalian heart, published in 1892 in the *Philosophical Transactions of the Royal Society,* there is a judicious recognition of many factors, an avoidance of entanglement in either the myogenic, the neurogenic or the earlier one, the mechanical net, which made the work and its outcome of special interest. Attention is constantly paid to the nutrition of the heart and to the great importance of nervous influence as bearing on this. For the first time they brought into the requisite degree of prominence the relation between that condition, dilatation of the heart, so deplorable for the subject, and fatigue or imperfect nutrition; i. e., they did this as the result and natural outcome of the application of physiologic experiments. They distinctly say that "in a healthy heart dilatation and fatigue are synonymous terms. In a diseased heart the degree of dilatation of its cavities is in inverse ratio to its power of doing its work; in both cases the dilatation *per se* places the heart in an unfavorable position for meeting physiologic increase in the work thrown on it." They laid stress on the importance of the vagus nerve for the mammal as others had done for the cold-blooded animals. "The vagus acts chiefly in the interests of the heart and nervous system." The chief forms of rhythmic and arrhythmic irregularity are shown to be produced by vagus action. "The irregular heart expends energy, and its tissues, therefore, are more wasted for a given amount of work than in the heart which is beating regularly."

Roy and Adami believed that the increased size of the heart during vagus standstill was to be explained mechanically as due to increased pressure and not to any change in tonus, an opinion which my observations do not wholly justify. They laid stress afresh on the alteration of excitability in the ventricles produced by vagus stimulation; a fact to which McWilliam and myself had drawn special attention when dealing with the hearts of cold-blooded animals. Roy and Adami would explain the commonest kind of irregularity in the ventricles by this interference on the part of the vagus with their excitability, but they also recognized that the auricles may not respond to all the influences that reach them from the sinus.

The next prominent development in cardiac physiology is perhaps remotely due to the once dominant conception of the Cambridge school that physiology is physics and chemistry applied to the body, though the perfusion experiments of Ringer and others of the English and the German schools may have been specially suggestive. But the share that Loeb's work on the artificial fertilization of the eggs of invertebrates, if such it may be correctly termed, had together with his part in showing the influence of ions on muscular contraction generally proved a powerful stimulus and must not be underestimated. At all events a number of American workers began to test the influence of a variety of salts (ions) on heart action and considerable difference of opinion arose, so that if a physician were to attempt to follow all these publications in his confusion he might exclaim with Mercutio, "A plague on both your houses." According to this school, the heart-beat is of myogenic origin, but the real stimulus is to be sought in one or more of the salts of the blood.

G. N. Stewart's view, as expressed in the latest edition of his work on physiology, will likely commend itself to those who have not become prejudiced through special work with the ions. In regard to the causation of the heart-beat he says: "It is unquestionable that for the normal beat of the heart the presence of both salts (calcium chlorid and sodium chlorid) is one of the necessary conditions, but there is no solid foundation for the view that either the one or the other acts as a special chemical excitant of the automatic contraction."

Before passing on in my hasty review of the evolution of cardiac physiology mention must be made of the work of Porter on the mammalian heart. His extension of the researches begun by others on the influence of ligation of the coronary arteries and perhaps still more his feeding experiments helped to show more clearly than before the resemblance of the mammalian heart to that of the cold-blooded animals. Even the apex, usually regarded as so recalcitrant, was made to beat when connected with the rest of the ventricle by a small muscular strip containing a blood vessel through which a nutritive fluid could be passed.

Like a bomb-shell thrown into the camp of the myogenists came the new and wholly unexpected revelations of A. J. Carlson when he showed that the heart-beat in the king crab (*Limulus*) is, beyond all question, of nervous origin; that when the nerves and ganglia of the heart are removed it ceases to beat. We seemed to have been suddenly brought back to the period when the nerves of the heart of even the mammal were regarded in the same light as motor nerves, those that caused the contraction of skeletal muscle. The only question was as to how far such views were applicable to the hearts of mammals. Carlson holds that the burden of proof that conduction is muscular and not nervous, which is opposed to his own view, lies with the myogenists.

But lately the cause of the myogenists seems to them to have been strengthened by a revived study of a certain muscular bundle between the auricles and ventricles which, originally described by His, Jr., has been more recently examined by Hering and also by Retzer

in several mammals, including man. In the mammalian heart a bundle of muscle fibers may be traced from the interauricular septum below the fossa ovalis, forward and downward through the fibrous ring between the auricles and ventricles to blend with the musculature of the interventricular septum; while as possibly of considerable physiologic significance these fibers are found to be somewhat embryonic in character. Such a muscular bridge extending from the parts of the heart by which the rhythm of the ventricle is determined was just what was required, as it seemed, to make the explanation that had been apparently so successfully applied to the less differentiated hearts of the cold-blooded animals, equally, or at least to a considerable extent, satisfactory for the mammalian heart.

The resuscitation of the heart by perfusion experiments in human beings dead for many hours from disease was a sufficiently astounding phenomenon brought to light within the past two or three years. This result seemed to strengthen greatly the position of those who believed in the myogenic origin of the heart beat, though Carlson has offset this fact with some considerations that would make it appear that nervous tissue is not necessarily so short lived as we have been accustomed to suppose.

A body of workers has arisen within the last few years whose activities, to say the least, have been largely guided by the myogenic theory. They have attempted to explain nearly all heart irregularities by variations in certain properties of the heart muscle, and some of these writers, like Engelmann, have elaborated a system of technical terms that will prove somewhat repelling to the physician and may possibly lead many to suspect that these doctrines smack more of the laboratory than of Nature.

Engelmann believes that heart muscle is characterized by the following properties: the power to stimulate by conductivity, excitability and contractility, and he thinks that, in the frog at least, these properties are largely independent of each other. These views are so new, we stand so close to them, that it is difficult to pronounce on their merits fairly.

AUTHOR'S RESEARCHES.

Up to the present I have made but few references to my own views or work. Before I summarize in a few sentences what I conceive to have been the chief trends of heart physiology during the past 25 years I may be permitted to make a few references to the part I myself have played in the drama and the position I took and maintained from the first.

Very early in my physiologic career I became impressed with the following principles: 1. If ever we are to have a broad and safe physiology it must come through the comparative method. 2. However valuable graphic methods and laboratory methods are in general, they have their limits of safe application. An experiment, however well devised, puts the animal or organ under more or less unnatural conditions, and for this reason all work by the laboratory method should be supplemented and interpreted through observations and considerations that take us beyond the laboratory, and especially should results obtained by the graphic method be thus treated. 3. Overgeneralization and neglect of individual differences with a tendency to accept explanations that are too simple to meet the complicated ways of Nature are temptations that seem to me ever to beset the path of the physiologist.

With these convictions influencing me from the outset of my career, most of my work on the heart has been done without the use of the graphic method. With set purpose I have aimed to maintain natural conditions above all things, in consequence of which, as I believe, some of my conclusions have been to a certain extent at variance with those of some able workers in the field of heart physiology.

My first paper on the heart of the sea turtle was published 21 years ago and was followed by others on the water tortoise, on the various kinds of sea turtles, on fishes, the menobranch, the alligator, the snake and the mammal. I was early convinced that the brilliant work of some of the early investigators gave evidence of yielding to some of the temptations referred to above, so that there was evidence to me of over-generalization with insufficient care in guarding the conditions under which the heart was working, and without sufficiently bearing in mind the possible fallacies that ever tend to creep into physiologic reasoning. My comparison of one chelonian heart with another showed that there were considerable differences even in a single family; and the same applied, I found, to the hearts of fishes; while conclusions derived from these groups did not harmonize with those on work growing out of the invertebrates. Small wonder, then, that the physiology that had been living on the frog and the mammal lacked in breadth and truthfulness. My work on the water tortoise (slider terrapin) convinced me that in the matter of independent cardiac rhythm the truth had been overstated, and when comparison was made with other groups the same held. Only in the menobranch did I find a ventricle that when left to itself and not pampered by any kind of stimulation would manifest any such independent rhythmic properties as had been claimed for the land tortoise.

In 1905 Lingle showed that strips of the ventricle of the tortoise do not beat when merely kept under normal conditions, or even when subjected to the action of an electric current, except when moistened with a weak ("physiologic") saline solution, and he was of opinion that the contractions were due to the stimulus of sodium chlorid.

Twenty years before I had maintained that an independent rhythm was in the chelonian, but feebly developed at the best and in many cases practically nonexistent.

On the other hand, all I had seen tended to deepen the impression made by my first experiments that the vagus nerve is highly important, indeed, essential for the welfare of the hearts of all animals provided with it; and I have given some proofs of this that could not fail to carry conviction. In 1887 I published a paper on the causation of the heart beat, in which I endeavored to show that not one but many factors enter into this result, a view which was again urged before the physiologic section of the British Medical Association at its annual meeting in 1897, when I maintained that of the several factors entering into the causation of the heart beat each was variably operative on the hearts of different animals. The large majority of the members seemed fully satisfied with the myogenic theory, which certainly has the merit of simplicity and saves much trouble in thinking. The question is, Does it square with the facts of Nature? Of that more again.

About 7 years ago I became greatly interested in the nervous system and then and a little later spent much time in working out the intrinsic nervous supply of the

heart histologically. Only then did I realize how wonderfully richly is this organ supplied with neurons.

It is difficult for one who does such work as this on a large number of animals of different species and genera to accept the myogenic theory pure and simple as an adequate explanation of the heart beat. I find that Hoffmann, who has also worked much in this way, has a similar disinclination to be satisfied with myogenic explanations. He thinks that the ganglia act in some way toward a joint co-ordination.

Several important advances in cardiac physiology have not been referred to in this paper, largely because they have not been subject to question and because an account of them can be found in all text-books of physiology that are up to date. Our views as to the way in which the heart adapts itself to its work under normal and pathologic conditions are much more clearly understood, to mention but a single case.

Before proceeding to attempt to reconcile existing differences of opinion or provide a working hypothesis perhaps a very brief summary of our progress, or possibly I should rather say our tackings on the treacherous sea of cardiac physiology, may be helpful.

SUMMARY.

1. Physiology having developed almost exclusively in connection with the study of medicine, researches up to about 25 years ago were carried out practically only on mammals and the frog.

2. About this time, possibly owing to the influence of the doctrines of organic evolution, the science began to be more comparative, and in no region more than in cardiac physiology.

3. During this new epoch researches were carried out not only on various animals, but on the turtles and tortoises, the frog, the fish, the lizard, the alligator, the snake, the newt, etc., together with many invertebrates. The result was that early in this epoch the view that the muscle of the heart was subject to its nerves in very much the same way as ordinary skeletal muscle, gave place to a doctrine in which muscle was as much exalted as nerve had previously been.

The nerves of the heart were considered not as either iniators or conductors of the beat of the less differentiated parts of the heart, but simply as controllers or co-ordinators if even the latter; the beat was deemed wholly of muscular origin. This was the myogenic theory as opposed to the neurogenic theory. The extension of the work that had been carried out chiefly on the hearts of cold-blooded mammals seemed to show that the mammalian heart obeyed to a large extent the same laws.

4. Certain researches on the mammalian heart emphasized this dependence on an immediate and adequate blood supply.

5. Other researches both on lower vertebrates and on mammals made it clear that the vagus existed chiefly to spare the heart as well as adapt its work to the needs of the rest of the body; while still others emphasized its importance as the trophic nerve of the heart as distinguished from the accelerator nerves which tended to exhaust its resources.

6. Recent investigations have brought into prominence the importance of the nerve elements in certain, if not all, groups of animals, thus strengthening the neurogenic theory of the origin of the heart beat.

7. At the same time certain other facts, both anatomic and physiologic, have been given great prominence in connection with the myogenic theory, so that the whole question has assumed an interest it has not had for many years.

8. During the greater part of the period covered by the last 20 years the question of an independent rhythmic power for each part of the heart has been kept prominent, and of late this, with differentiation of the various properties of heart muscle, has been made the foundation of attempts to apply modern cardiac physiology to cases of heart disorders, notably the various forms of arrhythmia.

In these attempts the explanations based on the myogenic theory of heart action have been much more prominent than those referring it to the nervous system. Although his work does not fall chiefly within the newer era, I must not, before an American audience, and in Boston, fail to mention that our veteran physiologist, H. P. Bowditch, was one of the pioneers in heart physiology. It was he, e. g., who first showed 35 years ago that slowly repeated electric stimuli sent through heart tissue have the power to originate independent contractions.

RECONCILIATION AND SUBSTITUTION.

The question that I must now try to answer for the practitioner is this: Can the physician accept with confidence the myogenic, neurogenic or the ionic theories? To this I will at once answer that I can not do so for myself. For me each contains a portion of the truth, while none, taken by itself, suffices to explain all the facts. In a paper published in 1887 on "A Physiologic Basis for an Improved Cardiac Pathology," I endeavored to show what I later maintained at the meeting of the British Medical Association in 1897 that in explaining the heart-beat several factors must be taken into consideration, and that the part each plays is variable for different species of animals, though in all the higher hearts each of them probably has an appreciable influence. In that paper I also called attention to a view that I think was for the first time distinctly formulated, viz., that the nervous system in vertebrates is constantly sending out impulses that are essential to the well-being of the tissues; that we can not make a sharp distinction between the functional and nutritional rôles of the nervous system; that one is closely bound up with the other and that this is why the heart is apt to fail in the exhausted man.

General exhaustion implies almost of necessity the badly nourished heart, the organ ready to dilate under any strain. If the battery be run down, the nerve stream that flows to the heart must be small. The importance of such a view has never been adequately realized, I believe, either by physiologists or physicians. It is in accord with vast numbers of facts which are otherwise inexplicable. We know to-day that muscles even when most relaxed possess a certain degree of tonus, and that this tone is dependent on the maintenance of the reflex arc. I would regard the environment in the widest sense as the source of the stimuli that, passing in through a thousand nervous channels, give rise to those impulses that maintain the healthy condition of all tissues, function being due to special modifications of that which is constant.

The importance of such constant outflowing influences to the heart can scarcely be over-estimated. It implies that the nervous mechanism of the heart is at least indirectly essential to its best condition and action for without it the qualities of muscle, which the myogenic theory presupposes, would speedily disappear; nor apart from such influences of the nervous system can

it be well understood how any ionic or other chemical theory can be applied. Certain it is that the heart with all its nerves severed must undergo degeneration. It may well be that a combination of certain ions is essential to the well-being of the heart, as indeed of all tissues, but that they can be utilized for any considerable period apart from the influence of the nervous system seems highly improbable.

To learn exactly what share the nervous system takes in actually initiating a heart beat in the vertebrate we must await further researches; in the meantime I can not myself believe that the nervous mechanism of the heart has no other function except that of control in the generally accepted sense of the term. Also, I do not find the evidence sufficient to justify the view that this elaborate system of neurons has no other influence than that of presiding over the nutrition of the organ, important as that is; especially as it has been shown that the peristalsis of the intestine, an organization of a lower form of structure, is of nervous origin.

CONCLUSION.

In conclusion, I would say that I believe for myself and recommend the practitioner to adopt the view that the heart beat is not due in the higher vertebrates to any one factor exclusively; but that chemical, muscular and nervous factors all enter into the result, and that the exact share each takes it is impossible to determine at the present time; but for practical purposes, as well as for theoretical explanations, whether the normal or diseased heart be considered, it is very important to bear in mind that the nervous system is behind all nutrition, that of the heart included.

THE LIMIT OF PROPRIETORSHIP IN MATERIA MEDICA.

HOW FAR NECESSARY? HOW FAR PERMISSIBLE? HOW CONTROLLABLE? HOW CONCERNED WITH FRAUD.*

SOLOMON SOLIS-COHEN, M.D.
Professor of Clinical Medicine in Jefferson Medical College.
PHILADELPHIA.

With the question of fraudulent nostrums as presented by Mr. Kebler this communication has nothing to do. They are outside of the domain of science. We are interested in the doings of "patent-medicine" criminals just as, but no more than, we are in the doings of criminals of other kinds. We desire to prevent and punish their evil devices; but these are innumerable and it is but waste of time and energy to try to itemize them. We are interested vitally, however, in what goes on in the medical and pharmaceutical household, and to that I would call attention. A portion of the subject has been presented to this Section by Professor Diehl in his paper on the National Formulary and its relation to proprietary medicines; but there is something more to be said, especially in relation to the limits that are to be drawn about legitimate proprietorship in medicines.

PROPRIETORSHIP UNNECESSARY.

Were I free to reconstruct the world according to the method that would please me best, I should certainly fail to make as good a world as that which exists, except in one thing—I should utterly abolish all proprietorship in articles of the materia medica.

The purity and quality of quinin, or strychnin, or opium, or iodids, or calomel, or arsenic, do not depend on any proprietary rights in these substances or in their official names; and what is unnecessary for the standard drugs is unnecessary for any and all others.

But we have to deal with the world as it exists, and proprietorship in certain agents of the materia medica, through our folly and carelessness, has been so firmly established that we can not now abolish it. We are, therefore, called on to regulate it. The question is: Can we regulate it and, if so, how and how far? We can regulate it absolutely in so far as physicians are concerned, for each of us is within the control of the ethical standards, the moral consensus of the profession. The profession utterly discountenances and repudiates every attempt on the part of the physician to constitute himself the proprietor of any remedy or of any remedial process, and it will ostracize any practicing physician who will descend to such a mercenary practice.

RELATION OF PHARMACISTS TO PROPRIETORSHIP.

How about the allied profession of pharmacy? Thus far pharmacists as a professional body have not seen fit to establish a standard which forbids one of their number from becoming proprietor of a drug, or of a process of manufacture of a drug, and so long as pharmacy has trade relations I presume that such proprietorship can not be forbidden. But there are two kinds of pharmacists: First, the retail pharmacist, so-called, that is to say, the individual practicing his profession, one who in his highest development is the colleague and brother of the physician, to whom the physician turns for advice and on whom he depends for aid in the treatment of the sick; and, second, the manufacturing pharmacist, the man, or firm, who produces either a single agent or a few agents, or who manufactures drugs and medicinal preparations in general for the purpose of selling them in bulk, and who does not fill prescriptions—does not come, therefore, into direct personal relation either with the patient who takes, or the physician who prescribes, his products. The relations between the physician and the individual or dispensing pharmacist are fairly satisfactory, are becoming better defined, and are not seriously disturbed by the question of proprietorship; that being adjusted on the basis of personal name-brand to which I shall refer later. The really serious and important question is as to what relation the medical profession can establish with the manufacturing pharmacist—whether the manufacturer of specialties or the manufacturer of drugs and preparations in general—that shall be fair and honest; that shall remove the obstacles offered by present conditions to the advancement of medical science, but at the same time shall concede to the manufacturer such property rights as may justly be his.

THE COUNCIL ON PHARMACY AND CHEMISTRY.

That is the question which we have to take up very seriously, which we must in a judicial spirit determine and, having so determined, must settle, and settle in the right way. The establishment of the Council on Pharmacy and Chemistry of the American Medical Association is a step in the right direction. I do not know how far that step will go. We have not yet been able to measure it accurately. So far as may be judged from present developments, however, the work of the Council on Pharmacy and Chemistry seems worthy not only of the approval of the Section, but also of the active support of every practitioner, every dispensing pharmacist, and every honorable manufacturer of pharmaceuticals.

* Read in the Section on Pharmacology of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

ALL PROPERTY RIGHTS DEFINED AND LIMITED BY LAW.

Before taking up and trying to define the limits of the proprietorship in remedies which physicians may recognize on the part of the individual pharmacist or on the part of the manufacturing pharmacist, let us see what light may be thrown on the question by a brief review of property rights in general. All civilized communities recognize property rights. They recognize in the individual the right to make himself the exclusive possessor of an article or of an idea. Rights tangible and rights intangible, rights of various kinds, are recognized as legitimate property. On the other hand, property rights are accurately defined and limited by law. There are some things which may not lawfully be made property. At one time it was not only perfectly lawful, but was also deemed right and honorable for a man to make himself the proprietor of other men. Little by little opinion changed. First isolated voices, here and there, of cranks and reformers and agitators and abolitionists were heard and finally in this country, at least, property in human beings was abolished by law. Now we hear voices here and there advocating further limitations of those property rights which are still recognized; for example and notably in Russia, in Ireland and in Great Britain, property in land or the method of exercising proprietary rights over land is questioned; in the United States regulation of railroads and trusts, even public ownership, is agitated. Whether or not these and similar agitations will crystallize into law we do not know, and their justice does not here concern us; but we see that the principle has been established and is universally admitted that society has the right to define what objects shall be property, how property may be acquired, held or transferred, and in general to limit the extent to which property rights may go; that property in anything, except a man's own person and the fruit of his labor, is not a natural right inherent in man, but is purely a social, legal regulation. The existence of limitations on property rights is not, however, an excuse for the denial of right, given by law, and, therefore, within the domain of social protection. That property rights are limited by law justifies no one in seeking to deprive another by force or by chicane of what is lawfully his; hence we properly have laws to prevent and to punish theft. But there may be public property as well as private property. If the limitation of property rights fails to excuse the theft of private property, neither does their existence excuse the private appropriation of public property. To deny the existence of lawful property rights in materia medica is folly; but that does not justify illegitimate attempts to make private property of knowledge that belongs to the whole medical profession.

PUBLIC AND PRIVATE PROPERTY.

Here, then, is the point at which we must draw the line. That which is of necessity public property, that which belongs to the whole medical profession—including therein both physicians and pharmacists—may not rightfully be made the exclusive property of any pharmacist, or any inventor, or any manufacturer. The attempt to introduce confusion into this subject is made in the interest of fakes and fakirs—not of those confessed criminals, the rogues whose fraudulent devices Mr. Kebler has told about, but of men who claim respectability and who, nevertheless, are a disgrace to the profession of pharmacy, if they ever belonged to it, and who certainly have been cast out of the ranks of recognized medicine, if, indeed, they were ever enlisted. I refer to the projectors or proprietors of the fake "synthetics" and alleged novel "amido-benzol derivatives" or "compounds of the benzene ring," etc., which are novel only in name, usually being familiar agents disguised by mixture or otherwise. I refer to such stuff as "antikamnia" and its numerous imitators; to those manufacturers and dealers who have made or perhaps still make false or misleading statements concerning the composition, action or chemical character of the products they sell as remedial agents, and whose endeavor is by virtue of such false or misleading statements to induce physicians to use and to prescribe their nostrums. The effort to confuse the issue has been made in the interest of this type of fraudulent pharmaceuticals and their authors.

PATENT RIGHTS.

Brushing such products and such confusion aside, let us inquire in what manner property may rightly be established in a legitimate drug or pharmaceutical product? Let us use the word product as the simplest, practically covering the ground. According to the laws of the United States, exclusive rights may be obtained over inventions relating to medicine, either on the product or the process. The grant is for seventeen years. This is a patent. It is on record in the Patent Office at Washington. Before the patent is granted a full description of the product or process to which claim is set up, including, therefore, tests for identity, must be made and filed. It is not secret, being of public record; and, moreover, the requirements which the Pharmacopeia properly insists on for the admission of a drug, are fulfilled—inasmuch as there are standard tests for identity, for purity and for quality. While, therefore, we should continue to reprehend secrecy, we should bear in mind that the law grants to pharmacists and manufacturers the right to take out patents on their processes; and so long as articles which are useful in medicine and of whose benefits we can not rightfully deprive our patients are lawfully patentable, we must recognize those patents (and I for one am in favor of doing so) about which there is no fraud. Of course, if the process as patented, or if the test of identity as filed, does not apply to the substance as found in commerce, the matter then enters into that region of fraud with which, as I have already said, we have nothing to do. But when a patent is honest and the article is useful, I am in favor of recognizing the product, using it and admitting it to the Pharmacopeia. Here, however, a new phase of the question appears—indeed, the most important one.

NOMENCLATURE.

When a new medicinal product is brought into the world it must be given a name to distinguish it from all other products, and it is on this question of name that the whole discussion finally turns. A combination of carbon, hydrogen, nitrogen and oxygen in certain proportions made in a certain way, is given, let us say, the name of "phenacetin." It might have been called "acetphenetidin," but the inventor chooses instead to call it phenacetin. Never mind what his object is in using that particular combination of sounds, he uses it. He brings this product into the world, he gives it a name, and that is the only name by which it can be procured. That name enters into pharmaceutic and therapeutic literature. What is the necessary consequence? Surely this—the name is public property and not private. The patent law may recognize private property in processes, but it must recognize no private property in names. I believe—if I am incorrect I trust that Dr. F. E. Stewart, whom

I am quoting from memory, will set me right—that there have been certain cases decided in the U. S. Supreme Court and other courts—I think one was the "Singer sewing machine" case and another the "Castoria" case—which uphold this doctrine; then when a name is given to a patented product and the name enters into literature in general, into trade lists, into the dictionary, into periodicals and lectures and text-books, then such a name becomes a common noun and, therefore, common property. It is a descriptive name, and not a trademark. There can be no exclusive right in words, and if the word by which this particular combination of chemical elements has been described in literature is phenacetin, then its rightful name is phenacetin; and as phenacetin it can enter the Pharmacopeia. The Pharmacopeia may give it also another and a better name. It may give preference to the form acetphenetidin and give the form phenacetin as a synonym. That is another question. But whether official title or synonym, the rightful property of any individual in that name is *nil*. We must never for an instant admit such property. Otherwise our text-books, our dictionaries, our lectures, our medical society meetings, become one huge advertising machine for some proprietor. If the law is other than I have stated, then it is our duty to agitate for such amendment of the law as will exclude private property in names.

The process, however, is a different matter. Law and custom give the right to make property of processes if these show the necessary originality; and as the property right is a limited one, no great harm is done. I do not advocate patents on processes; indeed, I doubt from a sociologic viewpoint the wisdom of all patents; but that is too large a question to discuss here and now. Patents exist and we must face the fact.

But if patents on one process are advisable, how about patents on other processes? A patent on a process must cover that process and no other. Improved processes must have equal rights to obtain patents. Suppose a new process is found for manufacturing phenacetin or acetphenetidin? If the name phenacetin or acetphenetidin is private property, the inventor of the new process can do nothing with his invention unless he acquires the consent of the proprietor of the name. That is a manifest injustice; it retards the science of pharmacy; it is a clog to the progress of medicine. Therefore, if new processes are discovered for the manufacture of patented articles the inventor of the new process should have the right to the old name, because that is the name by which the product is known and used. If that is not the law, we must make it law—in the constitutional manner.

TRADEMARKS.

But there is still another way by which the attempt is made to make property of agents of the materia medica; that is by the so-called copyright or, in reality, trademark. As a matter of fact, there is no copyright on anything but books and papers; that is to say, on collocations of words, but not on a single word. But the single word may be "registered" as a "trademark" or "brand." I may write and copyright a book or paper or poem on "stars" or on a "star," but I can not copyright the word "stars" or "star." I may, however, register the word "star" as a trademark to designate a particular brand of goods; for example, "star" razor or "star" braid. In neither case is the word itself copyrighted, because each manufacturer—the razor maker and the braid maker—has used it freely without regard to its use by any other; but it has become private property as applied to a particular product having another common name—razor or braid. So we could have "star" sewing machine, "star" phenacetin, "star" acetphenetidin, or "star" quinin, if you please; but the words razor, braid, sewing machine, quinin, phenacetin, remain common stock of all who use the language. If the law is otherwise, the law must be changed.

MANUFACTURER'S BRANDS.

How, then, shall the manufacturer, if he has given time, effort, expense, ability to the production of a particularly pure and worthy article of pharmacy, be protected? There is a simple and effective way. He has his own name and this he can use as a brand. Let him put his own name on his product, as a trademark, as Squibbs' ether or Johnson's plaster; or let him use any other device—star or sun or planet or initials, or anything that will indicate sufficiently that a particular article is made by a particular manufacturer. Let us frankly recognize this right by designating, when necessary, the particular brand of product with which our prescriptions are to be filled. I never hesitate to specify, when for any reason I find it necessary, Chapoteaut, Rosengarten, Wyeth, Fairchild, McK. & R., Fraser, Lloyd, Armour, Schering, Merck, or any other manufacturer, whose special product I wish. These are simply the names that come to me at the moment; there are many others that might be used with equal propriety. In this way we give the manufacturer his legitimate protection; we concede and make valuable his property right to his brand. We also protect the medical profession and science in their right to what is the general property—the descriptive name of the product. The name of the manufacturer as a trademark or brand of his products; the name of the article as the common property of the profession; thus we concede and thus we limit. The patent on the process may belong to the inventor for the seventeen years that the law gives it to him—until the law is abolished—and here also we have a definite concession and a distinct limit.

SECRECY.

It will be observed that, thus far, I have excluded entirely the question of secrecy. We are discussing questions of science, and secrecy is the very antithesis of science. Science is knowledge, systematized knowledge; secrecy is systematized ignorance. They are unrelenting foes; they can not come together save in deadly and destructive conflict. Moreover, secrecy is the parent of fraud. All the frauds that have arisen in the field of proprietary remedies have been builded on real or pretended secrets. But we are not concerned with mere frauds; I allude to them only to illustrate a danger. Is there any legitimate form of secrecy concerning agents of the materia medica? Concerning single agents?[1] No. Concerning mixtures, I doubt if there is much room for a secret of importance. I differ at this point with many manufacturers whom I respect for their high commercial and scientific standards; but whose vision is perhaps obscured a little by the question of trade interest. A manufacturer may say, for instance: "This mixture which I put forth contains ingredient A, so much; ingredient B, so much; ingredient C, so much; mixed according to a particular manner, with such flavor and such vehicle as I have found the best. All right. If

1. That is, as to the product. I have a sentimental objection to a secret process of manufacture but provided the product be one of definite composition and readily identifiable, I would not hesitate to use and to recommend it. Quinin, for instance, was long, perhaps still is, prepared by a secret process.

A, B and C really represent all that is active in that mixture and the exact quantities are as specified I have not much quarrel with him concerning his real or pretended secrets as to method, or flavor, or vehicle, though I would much prefer complete frankness. Frankness, so far as I am personally concerned, would inspire a confidence which I do not always have when it is absent. But suppose the manufacturer uses, as corrective or adjuvant, cocain, or hyoscin, or cannabis indica, or codein, or some other agent of positive power, and omits to publish the fact?

When we tell him that this is scientifically and morally wrong, he may reply: "Why, I just put in a little cocain to avoid upsetting the stomach, but it is only one-tenth of a milligram; that is of no consequence; it is not an active agent in the mixture; the other components do the work; that is simply my 'trade secret' in mixing." I do not care how little it is; if he did not put it in for the purpose of being active, why is it there? The manufacturer is not wasting his money by putting in unnecessary ingredients, and so long as the drug is there to act on the human body—whether synergistically or correctively to the other ingredients makes no difference—so long as it is there I must know it, or I am not justified in putting the mixture into the body of my patient. Therefore, we can not tolerate secrecy concerning anything, however minute the quantity, which is intended to, or which may without intent, give part of the medical effect, or which may be used to modify or to correct the general action or any special action of the whole mixture, or of any special ingredient. Any ingredient that, under any circumstances, may become physiologically active is one of which an overdose might be toxic, and concerning the presence and quantity of such agents full and exact information must be published. So, too, as to ingredients which chemically alter other ingredients or affect their absorption or elimination when administered.

It is not absolutely essential that we should know exactly what is used for mere flavor and mere vehicle, but I am under the impression that there are very few profitable secrets in flavors or in water; and when we come to vehicles other than water, as alcohol, glycerin, and so forth, we have definite and positive actions—perhaps chemical changes in the agent, perhaps local and systemic effects on the human organism, which must be taken account of. Thus many of the so-called liquid foods are chiefly alcohol, and the physician who ignores this fact does not do justice to his patient.

POWER TO CONTROL.

Finally, what is our power to control the action of manufacturers in the matters here spoken of? It is unlimited. We can prescribe or refuse to prescribe—dispense or refuse to dispense—any product or the products in general of any manufacturer. Let it be known that we will exert this power. Let us vest recognized authority in the Council on Pharmacy and Chemistry of the American Medical Association; in the Committee on Revision of the United States Pharmacopeia. Let them publish the facts—the whole truth, no more, no less—concerning all products and all manufacturers. Accordingly as our standards are respected or defied, let us act. There is no product, no firm, but something "equally good" may truly be found among legitimate products and among manufacturers willing to coöperate with the profession. Ours is the power if we choose to use it. Ours, therefore, and not the pharmacist's or the manufacturer's, is the full responsibility. We must meet our responsibility. We must use our power.

SUMMARY.

1. It would be best were there no private property rights concerning agents of the materia medica.

2. Property rights, however, exist legally in two ways: By patent and by trademark or brand.

3. Physicians and the Pharmacopeia should recognize these two forms of property right, and utilize them to control the situation through some recognized central authorities such as the Council on Pharmacy and Chemistry of the American Medical Association and the Committee on Revision of the United States Pharmacopeia.

4. The Pharmacopeia should admit useful patented products untainted by fraud (a) under the best short name fairly descriptive chemically, (b) under the name given by the inventor and recognized in literature as a synonym of the official title. Such names should be common property, free to the use of any manufacturer who may legally, and can actually, make a product conforming to official standards.

5. The patent as thus recognized applies only to process, not to product and not to name; and if this limitation be not in accordance with existing law the American Medical Association and the American Pharmaceutical Association should take the necessary steps to have the law amended accordingly.

6. Names of products being common property, manufacturers should be encouraged to register as brands and trademarks their own names or initials, or some arbitrary word or device, which should apply to all their products; and physicians should recognize and coöperate by specifying, when they deem it advisable, such brands of special products.

7. The use of fanciful and misleading names for special products and mixtures should be discouraged, and such brands or trademarks or proprietors' names of special articles should receive no recognition by medical or pharmaceutical authorities or by physicians. Products thus improperly designated should not be prescribed: they should not be referred to in lectures or papers or text-books.

8. This whole matter is entirely in the hands of physicians. Whatever manufacturers may do or fail to do, physicians write, or should write, their own prescriptions, or make their own purchases for dispensing. What they neither prescribe nor dispense will not prove profitable to manufacture. The responsibility, therefore, rests at last, as at first, squarely on the shoulders of physicians and can not be shifted to those of either the dispensing or of the manufacturing pharmacist.

DISCUSSION.

DR. W. J. ROBINSON, New York City, called attention to the fact that following the reading of his paper on the nostrum question at New Orleans in 1903, entitled, "The Composition of Some So-called Ethical Nostrums," the medical societies took a hand in the movement and wonderful results have been achieved. An examination of the pages of the medical journals of to-day will show the tremendous improvement that has been made. Many preparations which a few years ago were advertised in the most reputable journals are at the present time found only in those of the lowest kind. Of course, he said, there are still some preparations which should not be advertised in any reputable journal. He referred to a journal containing the advertisement of a preparation which purports to give the formula. It is headed: Beware of coal tar antipyretics. It itself contains two coal tar products, but fancy perverted terms are used for them. The nostrum is Labordine. Another is Buffalo Lithia Water. It is advertised in a great many magazines and in the New York *Times*. It is stated therein that Buffalo Lithia Water will cure the albuminuria of pregnancy and Bright's disease, stone, renal inflammation,

rheumatism, uric acid conditions and so on, and the names of Loomis, I. N. Love, Bartholow, Shoemaker, etc., etc., are given as authorities highly recommending it.

Dr. Robinson agreed with Dr. Cohen in all he said. He covered the same ground two years ago at the Atlantic City meeting and showed what preparations may be prescribed and the relation of the physician to proprietary medicines. If a preparation is patented and not a secret it may be prescribed with propriety. Dr. Robinson is convinced that the nostrum evil agitation will result in tremendous good to the professions of medicine and of pharmacy, as well as to the public.

MR. M. I. WILBERT, Philadelphia, corrected Dr. Robinson in one statement he made that the agitation in reference to the nostrum evil originated with him. In 1817 the then president of the New York State Medical Society read a communication along these very lines and made suggestions. In 1819 the same question was brought up by the County Medical Society of New York and the members discussed the question at great length, and even produced a pamphlet which attracted considerable attention. Coming to more recent times, it is more than fifty years ago, that, at the annual meeting of the American Medical Association in Boston, this question was discussed. Two years later the American Pharmaceutical Association discussed the subject even more vigorously and adopted a Code of Ethics which to-day stands for exactly what Dr. Cohen propounded, and which is ideal if the members of the pharmaceutical profession would only live up to it. So far back as 1880 the Philadelphia County Medical Society took up this same question. It was discussed in the State Medical Association, and Dr. Stewart brought it up later in this section. However, it is not a question of credit, but a question of doing, and eliminating the fraudulent from the practice of medicine.

DR. W. J. ROBINSON, New York City, stated that he did not mean to say that he was the first to mention this subject. To go back into history we find that even in Egypt they had a nostrum problem. He only wanted to assert with all possible emphasis, that his New Orleans paper was the paper that brought the whole subject to a head. The issues were presented so squarely and so unequivocally that they could no longer be ignored. And it is well to bear in mind, he said, that that paper, which would now be considered rather mild, was at that time considered so radical that there was some hitch about its publication in THE JOURNAL, and it was published only after quite a few abridgments and eliminations. Hundreds of people are now doing excellent work in the anti-nostrum movement, but Dr. Robinson believes that he deserves some credit as one of the pioneers of the movement.

DR. F. E. LEWIS, New York City, thought it must be very gratifying to the members of this section to note the friendly attitude the pharmacists have taken at this particular meeting. He deprecated a rather different tendency on the part of some of the pharmaceutical profession, that is in a measure a dictatorial position and an over-critical position toward the medical profession. Physicians have a right to demand from the pharmacist his assistance. He is to correlate their work, but not assume a dictatorial attitude. The Council of Pharmacy and Chemistry, in its fundamental bearing, he believes, is a step in the right direction. The one feature that will hold it back in its first objects is that it is too restricted among its pharmacists, that it does not embody sufficient of the principles of the medical profession. Dr. Lewis maintains that while the pharmacist has been of great value in the establishment of and in the placing of materia medica on its present high plane, the pharmacist knows nothing about the problems of the physician in the rural districts, who has problems which he must solve, and he must solve them according to the education and knowledge brought to his attention. This whole campaign, if it is going to amount to anything, must be educational, not coercive. Dr. Lewis believes that the medical profession, as a whole, is largely to blame for the situation as it exists to-day.

The question of proprietorship, he said, is not offensive at all. Proprietorship can be just as high-minded as any other walk in life, but physicians have the right to be scientific and they have the right to insist on a statement of the active ingredients of preparations they use. They should be honest. The question of honesty is the whole one. The question of honesty of act. This movement must be slow because the profession is confronted by conditions and not theories, and there is a large body of medical men in this country to-day who depend on these ready-made things. If they are honest and if they can use them in a better way, well and good, but there are many people who would like to abolish the charge on the part of the physician, and they act on that basis.

DR. REID HUNT, Washington, D. C., agreed with nearly everything Dr. Cohen said. He referred to two points. First as to some of the new names in the Pharmacopeia: these names are for the most part the true names but in an abbreviated form. The very composition determines the name, and the substances can not scientifically, have any other name. Many of these names must be shortened for commercial reasons, but it certainly seems preferable to adopt names which are at least suggestive of the true names instead of perpetuating trade names, which are often derived from supposed therapeutic properties. Second, Dr. Cohen spoke of the physician specifying the maker of the drug he wanted. That would put the pharmacist to great expense. One physician would specify, *e. g.*, A.'s ether, another B.'s, because he believed it to be as good as A.'s, but less expensive; a third would want C.'s for some other reason, and so on until the pharmacist would be compelled to have a dozen brands of nearly every drug; aside from the expense the temptation to substitution would be opened. Dr. Hunt thinks it would be better for the physicians to ask for the U. S. P. article, but, of course, until there are thoroughly enforced national and state pure drug laws there is some danger of inferior articles being dispensed.

MR. H. P. HYNSON, Baltimore, Md., believes that pharmacists are a tractable set. They are the children or servants of the medical profession, and it follows that medical men really have the correction of all these evils in their own hands.

DR. LYMAN F. KEBLER, Washington, D. C., said that if physicians are going to prescribe and are prescribing such articles as those referred to in the various papers, they are endorsing the worst kind of frauds. Very few of the concerns that exploit these fraudulent remedies are manufacturers. They are using the large manufacturers of pharmaceuticals all over the country for the furtherance of their schemes.

PROF. C. LEWIS DIEHL, Louisville, Ky., said that there is a crying need for a change by which the medical profession may be led to prescribe preparations of well-known formulæ, not by their titles of trade marked preparations, but by the original titles under which such preparations and formulæ have become well established, so that the abuse, which compels the keeping of a half a dozen brands of the same preparation in stock, may be done away with.

DR. S. SOLIS-COHEN, Philadelphia, said that he is not advocating the use of trade names, as, for example, phenacetin, in preference to acetphenetidin. But he wants it made clear that the article termed phenacetin by its manufacturers is not different from the article termed acetphenetidin by the U. S. P. What makes the coining of these names profitable is that they become private property, or at least the attempt is made to treat them as such. Let it be understood—and if a law to that effect does not exist try to have it enacted—that a name can not be made property. Therefore, if any article is best known in literature by a trade name, seize that name as public property, make it official, and let any manufacturer employ it. Then the manufacturers will cease to coin these names and the pharmacopeial or chemical names only will be used. An ignorant physician will not then say, "I gave my patient phenacetin to-day, and to-morrow I am going to give him acetphenetidin;" it will be generally understood that urotropin and hexamethylenamina, are one and the same substance, and so on. If it is not necessary to specify manufacturers' names, do not so specify. Dr. Cohen does not advocate indiscriminate specification, but he does say that the claim of the manufacturer that he is legitimately entitled to some protection must be considered; and Dr. Cohen thinks it is wholly met by the use of his name. Many manufacturers are deserving of that; let them have it and then they need not claim in addition the illegitimate protection of a trademark name. Dr. Cohen thinks physicians should congratulate both themselves and the manufacturers on the friendly relations

existing between them and the Council of Pharmacy at the present time. That can be extended in many ways, especially as to therapeutic matters. He welcomes this as he does everything which will tend to improve the relations between the professions of pharmacy and of medicine, between the individual physician and the individual pharmacist, and also between the profession of medicine and the manufacturer on whom in the last resort physicians are frequently compelled to depend, simply because so many pharmacists have ceased to prepare their own galenicals. Dr. Cohen prefers when it is possible, to send his prescription to a pharmacist who makes his own fluid extracts, his own infusions and so on, but a great many men do not, and, after all, he must depend on some manufacturer who has made the preparation the druggist dispenses. Therefore, he must come into relation with the manufacturers, willy nilly. Let it be a definite and understood relation. The profession should have some means satisfactory to both sides of controlling the products of all reputable manufacturers. Commercial exploitation is not always bad; neither is it always good. If properly controlled, the good can be increased, the bad minimized. In 1858, Benjamin Ward Richardson introduced hydrogen dioxid to the medical profession. He laid down fully the indications and rules for its use. It was largely neglected until about 1880, when a manufacturing chemist began its exploitation. Despite Richardson's authority and ability, the profession might never have used this valuable agent had it not been commercially exploited. That particular manufacturer, however, asserted in regard to the therapy of hydrogen dioxid, many things which Richardson, being a scientific physician, did not assert. His product moreover, was defective; it was too highly acid. Physicians led astray by the commercial literature and neglecting to refer back to Richardson's writings, began to do much harm with the drug. That is the other side—the want of control. Many other useful drugs in and out of the Pharmacopeia have owed their general introduction to the exploitation of the manufacturers; on the other hand many useless drugs are exploited by them to the general detriment. The attitude of the profession should be one of encouragement to legitimate and scientific enterprise, of discouragement to fraud or unscientific pretense. In other words the medical profession must resume a friendly control of pharmacy.

RESULTS OF IMPROVED TECHNIC IN OTOLOGIC SURGERY.*

W. SOHIER BRYANT, A.M., M.D.
NEW YORK CITY.

Of late the technic of otologic surgery has steadily improved. Some of the advances in this line have already been generally accepted, while others are only regarded tentatively, or are not fully recognized. I consider only those improvements that are not accepted by all otologists and that have not yet been incorporated into their routine work. These improvements are largely connected with the physiologic treatment of wounds which materially shortens the convalescence and notably improves the results.

1. The advantages of a thorough mastoid operation are great. In this operation not only all the diseased tissue in sight is removed, but also the whole mastoid process ablated, and the zygomatic, occipital and jugular cells, if present, are opened, to expose all the cellular diverticula of the middle-ear system. The advantages are that there is no possibility that the convalescence will be much delayed by any remnant of the infected material which had inadvertently escaped removal, and a secondary operation will not be required except for possible intradural complications. The slightly increased operative time can not outweigh these benefits. Cases 10 and 25 show good results of this method. Bad results of a less extended operation are seen in Cases 1, 9 and 14 (Fig. 1).

2. The time consumed by the operation has been considerably shortened by the use of the three following instruments: *a*. Electric burrs of improved pattern are most useful in work on sclerosed bone or in finishing off an operation by the removal of irregularities and opening the recesses difficult of access to other instruments. *b*. Richards' curette is an instrument which allows direct boring in the bone and can be used to advantage in all but the very hardest bone. It thus dispenses with the need of chisel or gouge in most cases. *c*. My hand-driven front-bent gouge can be used instead of a chisel or mallet-driven gouge to open the hardest bone and in the delicate carving required in the excavation of the deeper parts.

These three instruments add greatly to the facility, safety and speed of the operation. Much time can now be saved in the operation, because it is no longer necessary to polish the osseous walls till they shine again if the blood clot dressing is to be used. Cases 5, 6, 9, 10, 11, 14, 16 to 23 and 25 show shortened time of the operation.

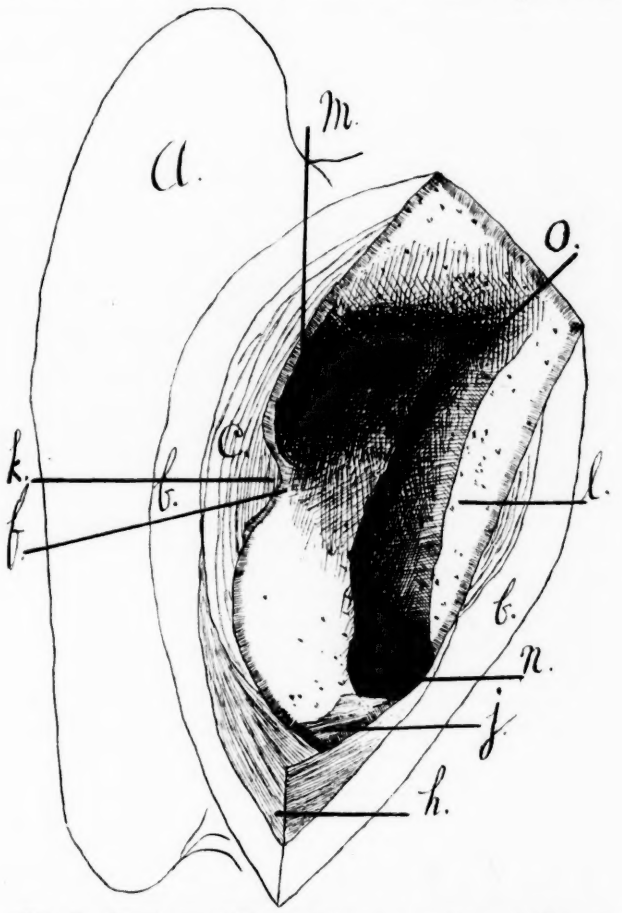


Fig. 1.—Simple mastoid operation for acute mastoiditis, the jugular cells have been thoroughly opened. The zygomatic, superior petrosal and occipital cells were not well developed. a, auricle; b, skin-flap; c, periosteum; f, posterior wall of osseous meatus; h, sternomastoid muscle; j, digastric muscle; k, posterior wall of membranous meatus; l, convexity of sigmoid sinus; m, mastoid antrum; n, jugular cells; o, superior petrosal cells.

3. The soft parts are moved and handled during the operation with greater care than they used to be, in order to preserve the periosteum intact and to avoid laceration and contusion of the soft parts which might delay the physiologic reparative process. The disposal of the soft parts after completion of the operation has been very much simplified. In the simple mastoid, when the blood

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

clot dressing is used, the soft parts and edges of the mastoid wound are allowed to adjust themselves. The coaptation may be made secure with deep sutures or preferably by a subcutaneous continuous suture of silver wire. In the mastoideotympanic operation, the mastoid wound is treated in the same way as the simple mastoid. I first tried this method in a case operated on Sept. 24, 1904. There is no longer need of a complicated plastic operation on the meatus. The meatus may be slit or left intact. I first left it intact in a case operated on May 23, 1904. In either case the meatus is not distended or the packing of the meatus is very light. Cases 10 and 25 have the meatus intact (Fig. 2). The closure of the Eustachian tube can be best effected by pushing the mucous membrane forward from the tympanic mouth of the tube and packing it toward the isthmus of the tube (Cases 12 and 18). I treated my first case in this way Sept. 14, 1904, by using a part of the drum membrane to cover the orifice of the tube.

The soft parts are manipulated always with the purpose in view of avoiding a secondary operation and shortening the convalescence by the quick formation of a firm cicatrix in the track of the operation. Exposure of the dura mater has been proven to have no retarding action on the convalescence. I first closed a wound with an extensive exposure of the dura mater in a case operated on June 19, 1904.

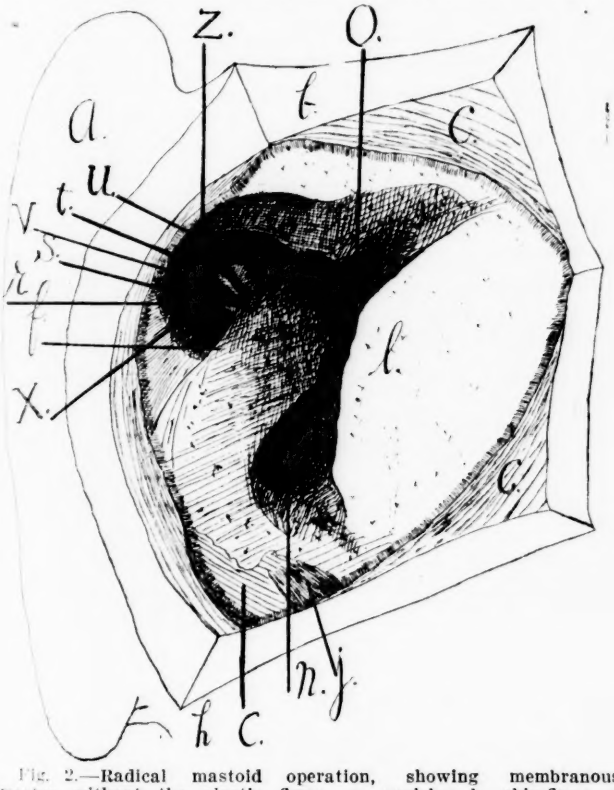


Fig. 2.—Radical mastoid operation, showing membranous meatus without the plastic flap: a, auricle; b, skin-flap; c, periosteum; f, posterior wall of osseous meatus; h, sternomastoid muscle; j, digastric muscle; a: convexity of sigmoid sinus; n, jugular cells; o, superior petrosal cells; r, anterior wall of osseous meatus; s, stapes; t, facial nerve; u, horizontal semicircular canal; v, processus cochleariformis; x, Eustachian tube; z, tegmen.

4. I have modified the procedure of the ordinary radical or mastoideotympanic operation in order to preserve the tympanum with its ossicles and membranal attachments in place, to secure a maximum of drainage through a circular incision of the membrane, together with the usual complete removal of the osseous structures, but with retention of the annulus. This is indicated in cases in which the function of the tympanum is fairly good and when there is no caries. I first tried this method June 27, 1905 (Case 15).

5. A careful study of the currents in the venous sinuses and veins of the head and neck justifies the precautionary measure of ligating the jugular vein before opening the sinus for thrombosis. This measure is intended to prevent setting a portion of the thrombus adrift. The ligation of the jugular vein above the facial, when the jugular is not diseased below this tributary, is indicated for the preservation of all the collateral circulation possible (Cases 2 and 3). When phlebitis of the bulb of the jugular is suspected it is best to open it by excavating its outer walls after first laying the sigmoid sinus open to this point, as shown in Figure 3 (Case 3). Case 1 was a fatal case in which the jugular was not ligated.

6. Brain abscesses are treated advantageously by the open method of extrusion in which no packing is used and there is not a too large meningeal opening, but with liberal removal of the brain tissue with the intent of exposing the abscess cavity by the removal of its outer wall. If a hernia should threaten, let the abscess be in the extruded portion. Large portions of the brain may be removed without danger to life, and mutilated and disorganized brain tissue is safer outside than inside the calvarium. The physiologic method of getting rid of

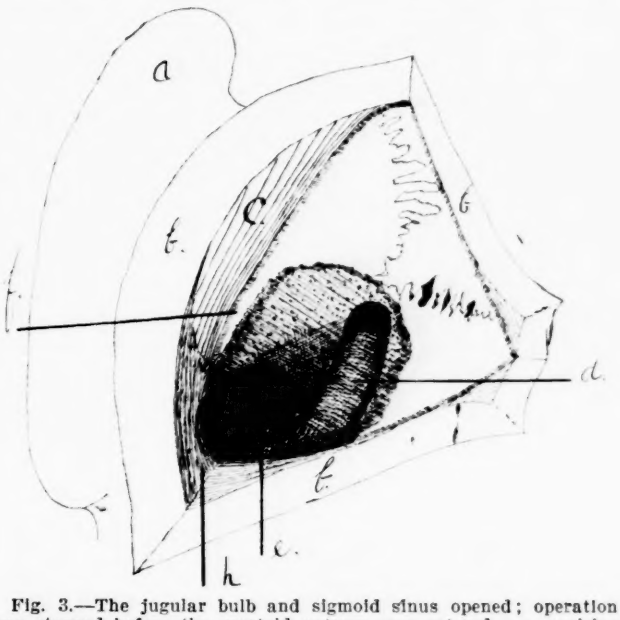


Fig. 3.—The jugular bulb and sigmoid sinus opened; operation was stopped before the mastoid antrum was entered. a, auricle; b, skin-flap; c, periosteum; d, inner and posterior wall of sigmoid sinus; e, jugular bulb; f, posterior wall of osseous meatus; h, sternomastoid muscle.

localized infected brain tissue is by the natural process of extrusion or hernia. Case 3 was treated by this method Nov. 15, 1905.

7. Progress toward physiologic or natural wound repair has been greatly advanced by the closure of the mastoid wound and the blood clot dressing after the simple mastoid operation, as advised by Blake, for the promotion of healing by first intention (Cases 9, 11, 19 and 20). If the clot breaks down, it does not matter much (Case 9). This procedure has been modified to give a maximum of union by first intention, together with drainage from the depth of the wound. This object is accomplished by closure of the wound, except for a small cigarette drain in the lower angle. My modification of this latter method is an early removal of the drain after the first 24 hours which allows the lower corner of the

wound to collapse. This insures a more rapid healing than in those cases in which the drain is left in a week or so, and seems to lessen the breaking down of the clot, probably by increasing the flow of serum. I use this method in all cases that do not promise well by the simple blood clot (Cases 21 and 23). In case the clot becomes infected, no damage is done, and the healing process progresses more rapidly if no packing is used (Case 21). The simple blood clot is indicated only in selected cases, while my modification of the drained blood clot is indicated in all other cases. Dr. Reik has adapted a protective sheath for covering the operative field, which ensures against infection of the wound from the skin and hair, and accounts in some measure for his excellent results with the blood clot.

8. The blood clot in the mastoideotympanic operation, as advised by Blake and Sprague, is as useful as in the simple mastoid operation. My first experience with this

AUTHOR'S RECENT OPERATIONS ON THE MASTOID REGION.

No.	Name.	Age.	Diagnosis.	Operation.	Treatment of Wound.
1	E. S.	28	Operation in consultation; mastoiditis and sinus thrombosis; later, brain abscess.	Dura mater uncovered and found to be gangrenous over large area; small cerebral abscess (softening) ant. and int. to knee of sinus. Sigmoid sinus opened throughout its length and found empty except for thin, yellow, long fibrinous clot; no bleeding from below; operation discontinued on account of failure of respiration; jugular not ligated.	Packed because gangrenous tissue had not been removed.
2	J. D.	35	Operated in consultation; simple mastoid operation 9 days before; sinus thrombosis.	Old wound opened and dura exposed over sigmoid sinus, which was diseased at the knee; jugular vein ligated above facial vein and sigmoid sinus opened throughout its length.	Packed; probability wound would be reopened.
3	L.	5	Oper. in consultation; a Wilde's incision 3 days before; otitis media purulenta chronica; jugular thrombosis; later, gangrenous necrosis, cerebral and cerebellar softening (abscess).	Dura uncovered and found gangrenous in region of sigmoid sinus; small cerebral abscess lying ant. to the knee of sinus; small cerebellar abscess post. to knee; int. jugular vein tied above facial vein; sinus was opened and emptied from torcular to facial vein; jugular bulb evacuated and outer walls of abscess removed with scissors and sharp curette.	Packed because operation could not be prolonged sufficiently for removal of necrotic tissue.
4	S. G.	12	Chronic purulent otitis media following mastoid operation.	Radical; dura exposed in both fossæ	Wound closed with blood clot at time of oper., but soon opened and packed by house officer
5	A. P.	7	Otitis media purulenta chronica.	Radical; dura exposed; meatus, L-shaped slit	Blood clot
6	A. S.	7	Otitis media purulenta chronica.	Radical; meatus, L-shaped slit	Blood clot
7	A. K.	38	Otitis media pur. chron., severe headache and dizziness.	Radical; dura exposed over considerable area	Blood clot, meatal flap, L-shaped.
8	G. T.	21	Acute mastoiditis; later, epidur. and episinucous abscess.	Simple mastoid, with posterior epidural extension	Drained blood clot.
9	W. M.	14	Acute mastoiditis	Simple mastoid	Blood clot
10	M.	36	Acute mastoiditis; later, epidur. abscess, osteomyelitis; extensive basilar exp. of meninges.	Radical	Meatus not slit.
11	H. N.	4	Acute mastoiditis	Simple mastoid	Drained blood clot.
12	M.	24	Otitis media pur. chron; caries of tympanum, severe headache.	Radical; dura exposed in both fossæ; Eustachian tube closed by pushing mucous membrane toward isthmus.	Drained blood clot.
13	A. R.	36	Subacute mastoiditis; later epidural abscess; operation in consultation, no discharge from the ear; middle ear conditions were chronic catarrhal otitis media.	Simple mastoid with epidural extension backward; no myringotomy.	Drained blood clot.
14	J. W.	34	Acute mastoiditis, later osteomyelitis.	Radical, extending in all directions over large area; dura exposed in both fossæ.	Drained blood clot.
15	R.	17	Acute mastoiditis	Modified radical; dura exposed in both fossæ	Blood clot
16	A. B.	45	Acute mastoiditis and otitis media pur. chron. following mastoid operation.	Radical	Wound closed by blood clot but soon opened and packed by house officer.
17	E. M.	16	Otitis media pur. chron; had had previous mastoid operation, old style.	Radical; dura exposed; L-incision of canal	Blood clot
18	M. C.	12	Otitis media pur. chron., with two postaural sinuses following a previous operation.	Radical; dura mater exposed in both fossæ	Blood clot
19	I. W.	4½ mos.	Acute mastoiditis	Simple mastoid	Blood clot
20	A. D.	4	Acute mastoiditis	Simple mastoid	Blood clot
21	M. M.	4 mos.	Acute mastoiditis	Simple mastoid	Drained blood clot.
22	E. R.	3	Chronic mastoiditis, and otitis media purulenta chronica.	Radical; dura exposed in middle fossæ	Blood clot. L meatal flap cut.
23	A.	3	Acute mastoiditis	Simple mastoid	Drained blood clot.
24	S. L.	17	Otitis media purulenta chronica.	Radical; dura exposed in both fossæ; L-shaped cut of meatus; subcutaneous catgut suture; Eustachian tube closed by packing mucous membrane toward isthmus.	Simple blood clot.
25	T.	56	Acute mastoiditis, very extensive involvement.	Radical; exposure on dura of both fossæ and extension of dissection nearly to jugular bulb.	Drained blood clot, no slit or plastic of meatus.

was in a case operated on Sept. 14, 1904 (Cases 6, 7, 17, 18, 22 and 24). If the clot breaks down, I do not pack. I began this method April 21, 1905, and have found the final healing and epidermatization slightly, if at all, delayed in the infected cases (Cases 5, 7, 14 and 18). My drained blood clot is similar to this procedure in the simple mastoid operation. The small cigarette drain should be removed after the first 24 hours (Cases 12 and 25). Rapid healing is the rule. No reopening has been required in any case. If the blood clot breaks down extensively, it takes place in less than 5 days and the wound opens of itself and drains well (Case 14). In Case 10 there was delayed healing caused by packing. The bad effects of packing after the radical operation are shown in Cases 4 and 16.

9. Epidural abscesses do well with the drained blood clot dressing. The wound is closed round a cigarette drain. The first case I treated in this way was operated

AUTHOR'S RECENT OPERATIONS ON THE MASTOID REGION.

Time, mins.	Wound Closure.	Middle Ear Dry.	Hearing Result.	Final Result.
60	No granulation	Continued to discharge till death.	Not taken	Death from general septic infection; no metastases.
75	Granulated	In a few days	Normal	Total recovery, cosmetic result, condition excellent.
90	Neck and postaural wound healed on 52d day by granulation.	146th day; membrana tympani absent.	Watch, 4 in.	Complete recovery, slightly depressed, smooth, postaural surface, slight scar in neck at one point only.
60	Wound closing well by first intention on 2d day, after which it was opened and packed by house officer; shows no signs of closing, 308 days after.	Shows no signs of getting dry, does not discharge externally.	Watch, 7 in.	A very large posterior opening leading into middle ear, no tendency for epidermis to enter the middle ear or encroach on sides of large postaural opening, which continually secretes mucopus that dries on edges and does not run out.
40	Slow closure; wound infected later	35th day	Not taken	Imperceptible scar; perfect contour.
40	First intention, 4 days	44th day	Watch, 9 in.	Imperceptible scar, even contour.
60	On 5th day wound was closed, by first intention; became infected and wound was opened on 8th day; 10th day nearly closed again.	21st day	"Much better since operation."	Scarcely perceptible linear scar, no change in external contour; headaches have ceased.
60	Wound healed, first intention, except at exit of cigarette drain.	15th day; membrana tympani completely healed.	Good	Linear scar, even contour.
28	On 2d day wound and canal suppurating; on 4th day secondary operation. 35 min.; behind former wound knee of sinus uncovered, several suppurating pneumatic cells found int. and post. to digastric fossa; wound not packed but allowed to close with blood clot; 4 days later wound suppurating; finally closed 16th day after 2d operation.	32d day	Watch, 26 inches.	Slight keloid in the upper part of linear scar; no unevenness of contour.
45	Packing removed from wound on 4th day; entirely healed on 22d day.	Practically dry, 18th day	Watch, 1 inch	Small scar, nearly smooth postaural surface.
6	Wound closed on 4th day, first intention	Nearly dry, 4th day	Not taken	No scar or unevenness.
90	On 4th day, removed drain from wound, which closed on 6th day.	8th day	Better than before op., watch 10½ in.	Linear scar, no change of contour.
55	Wound closed on 7th day, except very small sinus at seat of cigarette drain.	Throughout convalescence	Unchanged; poor.	Linear scar, smooth contour.
55	Wound closed at first by first intention, except at exit of cigarette drain; later, about ¼ of wound broke down, wholly closed 20th day.	Nearly, 23d day	Watch, 3 inches	Extensive even depression above and behind auricle; complete unilateral facial paralysis, gradually recovering.
45	Wound almost entirely closed by first intention, 5th day.	Removed packing from meatus, 2d day; middle ear dry, 5th day.	Normal	Linear scar, small keloid at one point; no unevenness of contour; mastoid process regenerated.
55	Posterior wound healed in 33 days	Granulations in tympanum, 33d day; dry, 158th day.	Watch, 1 inch	Large postaural depression.
47	Third day, first intention	3d day, packing removed from meatus; 13th day, practically dry.	Unchanged; poor.	Linear scar, small pit at the seat of former operation; no other deformity.
50	Wound closed on 3d day, first intention, except at central point, which was breaking down; 10th day wound closed finally.	Practically dry, 10th day	Unchanged; poor.	Linear scar; even surface.
6	Wound closed on 6th day, first intention	8th day	Not taken	Very faint linear scar; even surface.
4	Immediate by first intention; first day postaural wound could hardly be discovered.	Less than 105 days	Watch, 18 inches.	No scar; even surface.
12	Wound infected; drainage discontinued on 3d day; did not close by first intention, but was healed on 9th day.	9th day	Not taken	Linear scar; even surface.
36	No suppuration, closed on 21st day	Removed packing from meatus, 2d day; dry, 13th day.	Not taken	Recurrent serous and seropurulent discharges from postaural wound and pus in canal; scarcely perceptible scar.
15	Cigarette drain removed 2d day, wound healed except at exit of drain.	7th day	Not taken	Imperceptible scar.
60	On 3d day wound closed by first intention.	14th day	Watch, 2½ inches.	Barely perceptible linear scar; contour undisturbed.
45	Closed on 2d day, except at lower angle, where cigarette drain came through; drain removed; 4th day lower angle of the wound was also healed by first intention.	6th day	Not taken	Barely perceptible scar; even surface.

on June 19, 1904 (Cases 8 and 13). The blood clot broke down in Case 14. Case 10 was one of epidural abscess with convalescence delayed by packing a few days.

10. The improved cosmetic result is very marked after the blood clot dressing, because the scar is only linear, and when the bone wound has been leveled off and enough of the posterior wall of the osseous external meatus removed to make a fairly even surface no deformity can result (Cases 3, 5, 8, 12 and 19 to 25). Deformity resulting from packing the wound is shown in Cases 4 and 16.

11. Among the advantageous results following the improved technic is a lessening of the operative risk, due to diminution of shock because of the shorter time consumed in the operation and the avoidance of jar to the nervous system. The jar is avoided by discarding the mallet and using instead the new instruments described in Paragraph 2. Absence of shock is shown by Case 24.

12. The shortened convalescence is due partly to the

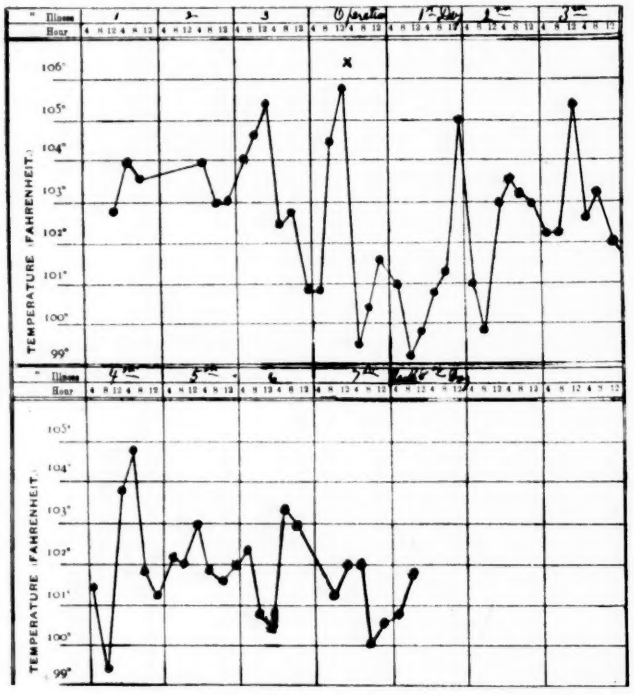


Chart 1.—Case 1.

better physical condition of the patient at the time of operation, because the operation is now usually undertaken before the patient's resistance is severely handicapped by the advance of the disease. It is also due to the improved manipulation of the soft parts and to their careful preservation and protection from unnecessary laceration and contusion during the operation. It is also due to the more scientific postoperative treatment which does not conflict with the well-known physiologic reparative process of Nature, but utilizes them to the best possible advantage in the blood clot and its modification. Nature's granulations do their intended work without stint or hindrance (Cases 6, 8, 11 to 13, 15, 17 to 22, 24 and 25). Slow convalescence, due to packing the wound, is shown in Cases 4 and 16.

13. Secondary operations are avoided by the thorough primary operation, by the encouragement of the formation of a firm cicatrix in the track of the operation and by the expeditious convalescence which prevents reformation of necrotic centers.

14. The preparation, operation and after-treatment now lead to a speedy termination of an uneventful convalescence (Case 24) and contribute in a large measure to the preservation of the residual hearing (Case 15). A maximum of residual hearing is to be attained after operation if the tympanum is allowed to cease secreting

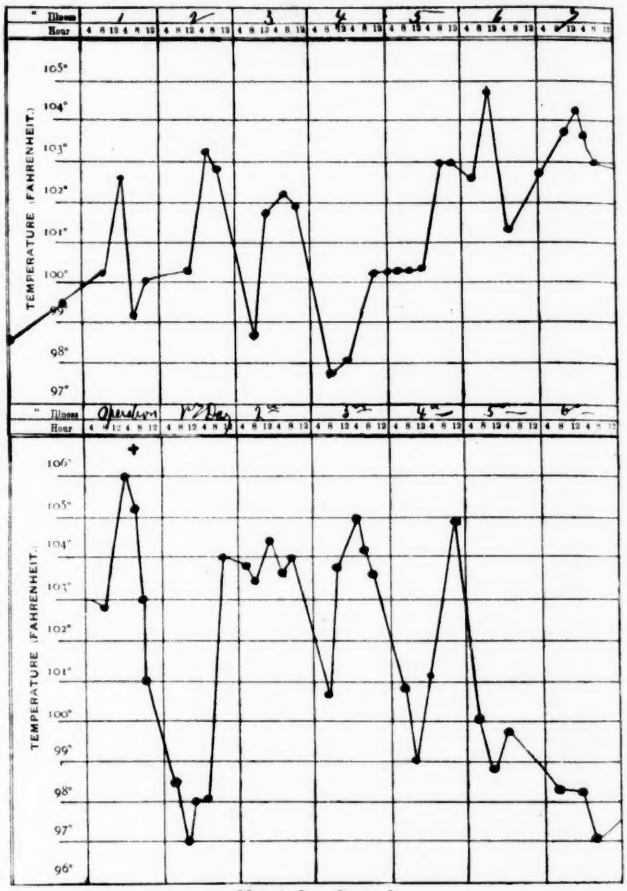


Chart 2.—Case 2.

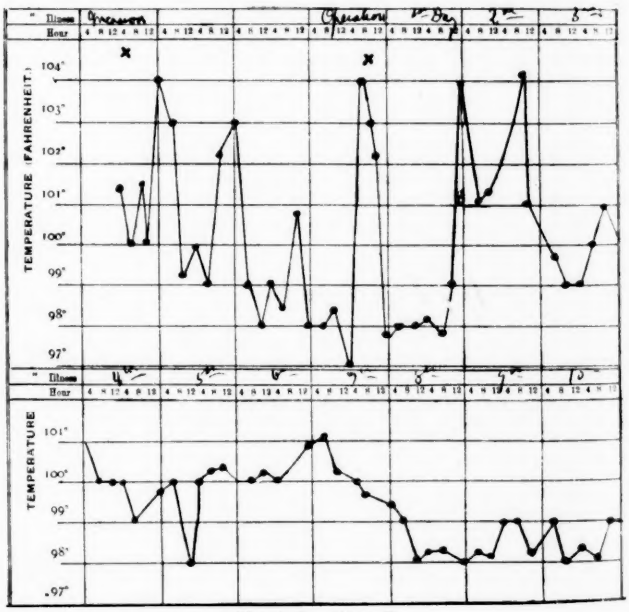


Chart 3.—Case 3.

before the postaural drainage is cut off, as this allows the sound-conducting mechanism to heal somewhat more quickly than by the reverse method.

15. The recent improvement in technic and the consequent rapid convalescence with a larger amount of resid-

ual hearing and no deformity justifies still earlier recourse to operative measures than formerly, which in the future will still further improve the statistics.

SUMMARY.

Following is a summary of the means and measures which encourage earlier operations with the hope of prolongation of life, a shorter convalescence and lessened expectation of a secondary operation, while they make the outlook favorable for more efficient hearing and absence of deformity: 1. Complete operation. 2. Use of efficient bone instruments and curtailment of useless polishing of the bone. 3. Rational disposal of the soft parts. 4. Preservation of the sound-conducting mechanism in selected radical cases. 5. Ligation of the jugular vein as high up as infection will allow before opening sinus and exenteration of the jugular bulb. 6. Management of brain abscess by the open method. 7. Blood clot, drained blood clot and my modification of the drained blood clot in the simple mastoid operation. 8. Reik's "protective sheet." 9. Blood clot in cases of epidural abscesses. 10. Cosmetic results of the blood clot, drained blood clot and evened-up bone wound. 11. Lessened shock and jar. 12. Shortened convalescence. 13. Elimination of secondary operation. 14. Avoidance of accumulated cicatricial tissue to interfere with the sound-conducting mechanism.

The 25 tabulated cases are the consecutive series of my recent operations on the mastoid region, arranged in order of severity of their postoperative constitutional symptoms:

DISCUSSION.

DR. A. H. ANDREWS, Chicago, said that those who have opened the lateral sinus and seen the freedom with which blood comes from the jugular bulb should have little fear of anything floating in that direction. While he has no objection to ligating the jugular previous to opening the lateral sinus, he can not advocate it for the reason Dr. Bryant gives. He has had some experience with the blood clot method of dressing, but it has not been satisfactory. It is true that the packing method does not always give entirely satisfactory results, and he will make further experiments with the blood clot method, although in some of the cases in which he has used it he has not been pleased heretofore. The question of hearing following these operations is important. The operations regarding the question of hearing may be divided into two classes: The simple, in which an effort should be made to get perfect hearing, and the tympanomastoid, in which, while perfect hearing can not be obtained as good hearing as possible should. The more perfect the drainage in the simple cases the more likely will perfect conditions in the middle ear be obtained. Dr. Andrews is satisfied that some physicians who are doing drainage operations do not appreciate the importance of letting the forward part of the antrum and the attic alone—of not probing the attic. He has known of the ossicles, especially the incus, being displaced by probing the antrum. When the incus is displaced it can not be expected that perfect hearing will follow the mastoid operation. If the best hearing possible is to be obtained in the radical operation, care must be taken not to allow granulation tissue to form over and about the stapes and the oval window. He considers that to be the most important thing in the after-treatment of the radical operation.

DR. CULLEN F. WELTY, San Francisco, said that every man can operate best with his own tools. He does not approve of the burr in the mastoid operation for the following reasons: The burr can not be controlled as well as the chisel, and heat comes from the friction. He has seen very few burr operations. He has seen the facial nerve severed by a slip. He also knows of a patient whose brain was punctured by a slip. He has never seen the facial nerve cut by the chisel, nor has he seen the chisel accidentally put into the brain. He thinks that the burr is particularly useful to smooth rough edges of a mastoid cavity. The granulations are not so large and they heal much better. He can not speak with confidence or enthusiasm of the blood clot dressing. He does not think it is a surgical procedure, and believes that better results can be obtained by other methods. He is familiar with the blood clot dressing for the radical mastoid operation, but does not think it practical, because the granulation tissue must be taken care of. The amount of granulation tissue in a recent operation depends largely on the looseness or the tightness with which the tampon is applied. The hearing following acute mastoid operations should not be affected. After late operations it is apt to be somewhat lessened. This is not dependent on the operation, but is dependent on organized connective tissue which binds down the stapes, permanently impairing hearing. For this particular reason it is conservative surgery to operate early in acute mastoid cases. The hearing following radical operation is usually benefited, especially when dependent on the impairment of the conduction apparatus which can be removed.

DR. E. B. DENCH, New York City, said that he believes that every man will use the instruments he is accustomed to and do better than with some new device. Dr. Dench has always used the mallet and chisel. He has given the blood clot dressing a trial, and in every case in which he has used it, and he has used it by all methods, the wound has broken down and it has been necessary to reopen and drain. The procedure is unsurgical; that cavity can not be cut off from the air. The blood clot method was introduced first by Schede in Germany in treating osteomyelitis of the long bones in particular. Dr. Dench has taken pains to question some of the general surgeons, and finds that the method is in disrepute, even in osteomyelitis of the long bones. He has tried to get from some of the men using this treatment definite statistics regarding the actual number of cases in which the wound has been absolutely closed and a good result from the blood clot obtained. Dr. Dench declared that he can not conceive of proper drainage in the radical operation without doing a plastic operation on the auricle. A certain number of patients will get well without, but a large proportion will not. He has had to reoperate on some patients, in whom the operation had been perfect except that the meatus was small, but as soon as he made a proper meatus the ear became dry. Dr. Dench does not think that ligation of the jugular vein before opening the sinus is necessary. He has seen a portion of the clot below the level of the facial vein, and in that case the infection is not cut off at all unless the jugular below the level of the facial vein is tied and the facial vein as well.

DR. PHILIP HAMMOND, Boston, said that in all operative procedures the question of paramount importance is not the production of as little scar as possible, or making the treatment of short duration, but of what measures will be safest for the patient. It seems to him that the immediate closure of the mastoid cavity, as has been advocated, can but lead to disaster sooner or later. It is true that many satisfactory results have been reported following the blood clot dressing, but those who see bad cases which come to the hospital, in which within a few days after the operation there is a rise of temperature and a question of deeper infection, know how useful it is to have a clean wound where the changes in the bone can be seen and the sinus readily reached. Some ten years ago Dr. Hammond saw several radical operations in which a partial flap was made on the meatus, and subsequently the dressings were left out. The result, in one case in particular, was that the meatus practically reformed, closing off the mastoid cavity, and a chronic suppurative condition still exists inside the temporal bone.

DR. F. B. SPRAGUE, Providence, R. I., said that as Dr. Bryant mentioned his name in reference to the blood clot in radical operations, he would tell how it is done. It is not a blood clot operation according to the recommendation of Schede. That is impossible under the disarranged anatomy. Dr. Sprague's technic is as follows: After complete exenteration of the structure, the canal flap being made according to the choice of the surgeon, the opening of the meatus is made large enough to admit of a half-inch pure gum drainage tube, which

is inserted as far as the facial ridge. A piece of round gauze wick covered with rubber tissue is then placed through the drainage tube along the remaining bony canal to the inner wall of the tympanum, then the whole remaining space is allowed to fill with blood and the mastoid incision closed to unite by primary union. The dressing is applied and left till the third day, when the wound is examined and, if in good condition, the new dressing is applied. The dressing near the tube will be wet with blood serum, but this is no indication for disturbance; should there be pus, however, it should be changed. On the fifth day the wick from the canal is removed and renewed. The seventh or eighth day the tube is removed and the cavity carefully wiped dry and packed closely, but not tightly, with gauze made in small tampons. This packing is repeated every day or two till epidermization is complete. Should the clot break down the cavity is irrigated with saline solution and tamponed as usual with small pieces of sterile gauze. If the blood clot fails, we save at least a week of painful dressings by the use of the rubber tubes and also have a good opening to pack through. This opening contracts after a while and the patient has a symmetrical canal mouth not as conspicuous and unsightly as the usual angular cuts.

Dr. Sprague said that he showed a patient in Boston, at the meeting of the Laryngological, Rhinological and Otological Society, three weeks from the day of operation, which was a splendid success, and he has done two other operations with equally good success. In the vast majority of cases, perhaps, the circumstances do not permit of such treatment. Wherever the blood clot can be used it helps to fill the cavity, gives a smaller space, and quicker healing is obtained, with less inconvenience to the patient.

DR. KASPAR PISCHEL, San Francisco, suggested the use of lampwicks for cigarette drains instead of gauze. If a lampwick and a gauze drain be placed in a glass of water it will be seen that the lampwick drains much better.

DR. O. H. REIK, Baltimore, said that he was sorry it is so hard to show Dr. Dench the error of his way, although Dr. Reik appreciated the conservative attitude he takes in the matter. It is perfectly proper that those who operate with the blood clot dressing in mastoidectomy should be required to demonstrate that this is a perfectly safe procedure. Dr. Reik said that he can not permit the statement that it is an unsurgical procedure to go unchallenged. He tried to show recently, in a paper published in THE JOURNAL of the American Medical Association, March 31, 1906, page 935, some reasons from the standpoint of the physiologist and bacteriologist why it is a perfectly scientific procedure. Physiologists have proved that the normal human blood is actually bactericidal. Perhaps an open cavity can not be better cleansed than by placing in it normal human blood which is capable of overcoming a certain number of micro-organisms. Dr. Dench stated that the Schede operation in osteomyelitis is in disrepute. Dr. Reik would rather say it is in disuse. Nothing has been brought out against it. It is in disuse, perhaps, mainly because success with the blood clot operation in the long bones requires an enormous amount of work. The surgeon must approach absolute cleansing of the wound and get out all the carious bone, to prevent infection and breaking down of the clot.

DR. J. F. BARNHILL, Indianapolis, said that he would have to take ground against the blood clot operation. One reason is, that whereas this operation is done for the purpose of getting rid of pus and septic material which has formed in the mastoid, it is also done for the further purpose of draining the middle ear cavity and of preserving the hearing apparatus in its best condition as to function. He considers the latter one of the important reasons for doing mastoid operation early. It has been his experience, and that of many others, that when postauricular drainage is provided early, as in mastoid operation, the rupture in the drum membrane heals rapidly, pus ceases to flow from the middle ear at once, and in a short time after the operation the ear becomes almost normal in every respect. When a blood clot is left to fill the mastoid wound, the drainage from the middle ear is thereby blocked, and consequently the middle ear must continue to drain through the opening in the drum membrane, and do damage to the ossicles and mucous membrane contained in that cavity. He therefore considers the presence of a blood clot in the mastoid wound a hindrance rather than a help to mastoid surgery.

DR. C. J. BLAKE, Boston, said that the first case in which he used the blood clot dressings was one of acute mastoiditis following acute middle ear trouble, in a musician, to whom hearing was very valuable. In that case he did the crescentic cut of the drumhead superior posteriorly, in order to save the membrana vibrans with reference to future hearing, and did the mastoid operation. The cavity was allowed to fill with blood clot, the lips of the wound were closed by apposition and pressure pads of gauze. It was early in his experience with the blood clot dressing, and it was his custom at the end of forty-eight hours to slit up the wound with a blunt probe, a Bowman's probe preferably, putting the tip of the probe into the antrum and slitting the wound from top to bottom, thus making a division of the formed blood clot and providing the necessary drainage from the antrum. At the end of forty-eight hours the patient had a rise in temperature, suggesting the probability of an infectious process in the middle ear. On examination the edges of the wound were in complete apposition and there were no signs of redness, swelling, or other disturbance in the mastoid. The next day there was a small red spot on the top of the patient's head. The erysipelas ran its course, well over the head, and finally disappeared, the mastoid wound being left untouched, under the circumstances. At the end of five or six days, the erysipelas having passed, the mastoid wound was well apposed, healing had taken place, and not only was the mastoid closed, but the opening in the drumhead had closed also. Tests made six weeks later gave the patient 90 per cent. of normal hearing in that ear. If this can be accomplished, as it was under conditions of accident, why, he asked, should it not be made as nearly as possible, with proper exceptions, a natural and general rule?

DR. W. SOHIER BRYANT, New York City, said that he has not seen any excessive granulations after the use of the blood clot. In regard to Dr. Dench's remarks about the blood clot and avoidance of packing in certain cases, Dr. Bryant thinks that there was a slight misunderstanding in the use of the word blood clot. He did not know how to use it so that Dr. Dench would understand exactly his meaning. He used the term simple blood clot, referring to wounds wholly closed by blood, and the term modified clot, referring to wounds only partially filled by blood clot. As to the size of the meatus following the omission of the packing after radical operation, he usually gets a meatus slightly larger than normal.

Dr. Bryant said that his method differs radically from that of Dr. Sprague. Dr. Bryant lets the wound close entirely, lets it collapse, the anterior soft parts falling back into the osseous excavation; and he uses a small amount of gauze in the meatus. He may or may not slit the meatus. The wound is dressed every day to make sure that it is all right. If the meatus looks dry after twenty-four hours, the gauze is left in twenty-four hours longer. If it is moist the gauze is removed and not replaced. The Blake blood clot is the simple blood clot without drainage. Dr. Bryant thinks that the drain blood clot is useful in more cases than the simple clot, because it is safer. A small cigarette drain, left in the bottom of the wound for not more than twenty-four hours, gives good drainage from the depths, as shown by the flow of serum which lasts several days after the removal of the drain.

Provisions for War Prevent Provisions for Prophylaxis.—A rather sensational episode at the International Antituberculosis Conference, which recently closed its sessions at The Hague, was the statement made by the delegate from France that the millions which his country wanted to spend on works for social defense against tuberculosis and the like she had been compelled by diplomatic exigencies to devote to the purchase of cannons and munitions of war. This undisguised appeal for universal peace was warmly applauded.

DUTIES OF MUNICIPALITY AND STATE IN THE CONTROL OF TUBERCULOSIS.*

G. WALTER HOLDEN, M.D.
DENVER.

It is the duty of municipalities and states to protect the lives, the property and the health of their citizens. The purpose of this paper is to bring to your consideration the relation of the state and the city to one disease—tuberculosis. At present states protect their citizens against other contagious and infectious diseases. Tuberculosis also should be under their control.

We know that tuberculosis is preventable and curable; yet we allow it to cost this nation 150,000 lives every year. Can we, as a nation, afford to offer up this annual sacrifice when the general adoption of preventive measures and their intelligent enforcement will gradually reduce this alarming mortality, and in due time stamp out the disease?

The prevention of tuberculosis is one of the most serious social problems that the country has to consider to-day, and the first movement toward the solution of the problem has been made by the medical profession, many of whom have put aside all selfish considerations and are working for the greatest good of humanity. So much has been said and written on this subject and, in proportion to its importance, so little enthusiasm has been aroused, that it is extremely discouraging to those who have the matter at heart; but results can be obtained only by persistent effort in keeping the subject constantly before the public. The idea still prevails, even among physicians, that this is a matter which can not be forced to an issue; that the education of the laity must be a question of generations; and so, with few exceptions, they evade their obvious responsibility. The education of the mass of the people must, of course, be gradual, but certain immediate and valuable results may be reached by influencing the authorities charged with the responsibility of state and city government.

STATE AND CITY BOARDS OF HEALTH.

One of the first of these should be the appointment to our state and city boards of health of men scientifically equipped to deal with this special problem, and these men should be invested with the necessary authority to act. Every state board should have for its secretary an efficient, energetic man to oversee and to keep vigilant watch over the condition of the public health throughout the commonwealth and to keep in touch with municipal health boards. His salary should be sufficient to enable him to give his entire time to the work.

It is of the utmost importance that every city secure the services of an energetic, fearless, aggressive man to captain the work of its board of health. His salary should be large enough to assure independent action, and the appropriations for his department should be sufficiently large to enable him to obtain results. He should be given the necessary authority, and thoroughly supported in its exercise. Remember that this is a campaign against ignorance and the indifference which arises from ignorance. Also the opposition of interests which thrive through conditions as they at present exist, will be both persistent and powerful. Especially is this so in the enforcement of ordinances regarding food products and in the regulation of tenement buildings and districts. Unless the above is complied with, all ordinances and requirements are worse than useless.

It is not possible to discuss in this paper all the problems that must come before such boards for solution. I shall consider in a general way only those which have appeared to me of vital importance, after having corresponded with health boards throughout the country.

COMPULSORY REGISTRATION OF CASES.

Compulsory registration should unquestionably be universally adopted. In a few instances it is already in force. A great many objections to compulsory registration are constantly being raised, but this is something which must be expected in the case of any reform. It is a common misapprehension to infer that, because a case of phthisis is reported, the physician has in any way violated the confidence of his patient or branded him a social outcast. This is far from being the intention, nor in those cities where this system has been enforced has it been the result. The records of reported cases are open only to officials authorized to inspect them.

In the case of the indigent, careless consumptive, who is a source of constant danger to the community, registration is necessary in order that some action may be taken toward improving his condition and the condition of his surroundings, and, if necessary, causing his removal to an institution where he will be under control. In the case of those under the care of reputable physicians no official action need be taken after notification unless the physician in charge especially requests it. It is assumed that a physician who can diagnose a case of tuberculosis and has reported it is competent to handle it.

It is the duty of the board of health to furnish the reporting physician with literature naming procedures and precautions to be taken by him in the care of the case, as well as necessary literature for the patient.

Monthly Bulletins.—State boards of health should issue monthly bulletins which should be sent to every practicing physician in the state. The monthly bulletins issued by the Kansas and Iowa state boards of health have recently been brought to my notice. They are a credit to the public spirit and professional ability of the gentlemen on these boards. They contain not only vital statistics, but discussions concerning problems of public hygiene and notice of what is being done in other states. The subject of tuberculosis is a prominent feature of these bulletins.

GENERAL SANITATION.

The disposal of sewage and garbage receives due attention in all our larger cities. In many of the smaller towns and communities the work of the local boards of health is hardly efficient. The important matter of the proper cleaning of the streets is one on which I wish to lay emphasis. We have no method so effective and satisfactory in the paved districts of cities as the flushing process. The street-sweeping machines usually found are a great source of danger; while they drive the greater portion of dust and dirt to the curb to be shoveled into wagons, it is an unsafe and unsanitary procedure, because clouds of infected dust are thrown into the air and inhaled by every one in the vicinity. Not only should attention be given to the care of the streets, but more rigid supervision of alley cleaning should be insisted on. There are several very excellent devices for flushing filth to the gutter and into the sewers, thus doing away with the greater portion of infected material and lessening the danger from that which remains. This is comparatively an expensive procedure, applicable only to the larger cities with a sufficient water sup-

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

ply. Where this system is not practicable, streets should be sprinkled, swept and the sweepings carted away.

The Spitting Nuisance.—In considering the subject of the spitting nuisance, I can not do better than to quote from Dr. Foster, who has comprehensively covered the ground as follows:

> As to legal restraint on the spitting habit it is not necessary to dwell. We know that through indiscriminate expectoration more than in any other way tuberculosis is scattered broadcast. We know that the habit is filthy and inexcusable. We all know how much has already been accomplished in eliminating the evil practice that at one time was considered our chief national characteristic. Expectorating in public places should be legally prohibited and the public should be made to respect the law.

The manner of calling the attention of the public to the antispitting ordinance varies in different cities. Denver, being a mecca for consumptives, has a particularly hard problem to handle, perhaps the most annoying feature of which is indiscriminate expectoration in street cars. Here we find it necessary to place plain-clothes men on the cars, with the result that the offenders are arrested, a fine imposed, and their names inserted in the daily press. The humiliation attending the latter procedure is most effective. The method of calling attention to the antispitting ordinance in New York City is to be commended. The police are furnished with a pad of printed slips, one of which the officer hands to any person seen expectorating on the sidewalk. One side of this slip reads:

> YOU ARE VIOLATING THE LAW AGAINST
>
> SPITTING.
>
> You are subject to imprisonment
> or fine, or both.
>
> BY ORDER OF THE BOARD OF HEALTH.

On the other side is printed the section of the sanitary code which is being violated. The unfortunate tendency of the average police officer, however, is to grow lax in enforcing the ordinance. While I should hesitate to recommend it, an effective stimulus to the performance of their duty could be found in allowing to the officer making the arrest a certain percentage of the fine imposed.

Disinfection of Apartments.—The commissioner of health should have a ruling relative to all apartments previously occupied by consumptives. Such apartments should be considered infected and, when vacated by death or removal of their occupant, they should be disinfected by the board of health, and it should be the duty of the physician, or any other person having knowledge of such previous occupancy, to notify the local board of health. A person who rents to any one apartments previously occupied by a consumptive before they have been disinfected should be considered guilty of a misdemeanor and fined.

The Tenement House.—Time will not permit me to discuss at length one of the vital problems in the prevention of tuberculosis—the elimination of the tenement house. We all know the danger that comes from overcrowding, and we know further how difficult it is to control it when money and influence are united to oppose legislation. We pay a heavy penalty for the maintenance of these evil conditions. When it is generally recognized that the spread of infection in the tenement districts jeopardizes the health of the entire community, rich and poor alike, more concentrated action will be taken and the necessary legislation will follow. In the meantime, it is the duty of the medical profession to do their utmost toward bringing this about.

Public Conveyances.—The state should pass more stringent laws governing the sanitation of railway sleeping cars and passenger coaches within its borders. If I am correctly informed, very few states have taken up this matter, although public opinion has forced many of the large railroads to adopt more sanitary measures than formerly, in order to avoid criticism. The states of Texas and Kentucky, however, have taken a definite stand in the matter, which other states would do well to imitate. Dr. J. H. Florence, acting health officer of Texas, has given me the recent regulations governing sanitation of railway sleeping cars in that state, rules which apply also to railway passenger coaches. These rules provide for the proper disinfection of sleeping cars and passenger coaches at stated intervals. They do away with the very dangerous practice of sweeping the cars in transit; they provide for the care and disposal of the expectoration of the passengers; they supervise the containers for drinking water and the handling of the ice.

The sanitary control of street cars and other public conveyances should receive more attention from city boards of health. These boards should enforce ordinances regulating the sweeping, cleaning and ventilating of all such conveyances, in addition to the antispitting ordinance.

The Smoke Nuisance.—Another source of danger to the public in closely populated cities and towns is the smoke nuisance. The continuous inhalation of minute particles of carbon irritates lungs already weak and is an unnecessary predisposing cause of weakness and disease which may easily be eliminated. Most cities already have ordinances regulating this, but they are not being sufficiently enforced.

Inspection of Dairies.—On the supervision of the health of dairy herds and the cleanliness of their products there is much to be said. Public opinion is awakening to the fact that the milk of tuberculous cattle is a great source of danger, in spite of the unfortunate statement of Professor Koch, in 1901. Most cities already pay some attention to the quality of their milk supply, yet the health of dairy herds, the conditions under which the cattle live, and the handling of their products, do not receive proper supervision. Herd inspection should receive careful consideration by state and municipal boards of health, working in conjunction with the state agriculture department. All tuberculous cattle should be condemned and killed, after the tuberculin test has been made, the state defraying a portion of the loss. This matter has been carried out in Massachusetts and several other states, and the results, I am informed, have been very satisfactory.

Inspection of herds should be made oftener than once a year, the reason for this procedure being well explained in the following extract from a letter from Dr. Bracken, executive officer of the Minnesota State Board of Health, in answer to a letter of inquiry:

> There is a state law which provides for compensating owners who have tuberculous cows when the same are killed after showing reaction to the tuberculin test. An attempt was made in Minneapolis, St. Paul and Duluth to inspect the dairy cows. The attempt in Minneapolis and St. Paul practically was a failure for the simple reason that the herds are tested once a year and the cows purchased by the dairymen to replace the dead animals are not tested at the time of purchase. Still further, up to the present time there is no control over the cows that are furnishing milk that is shipped into the Twin Cities. In Duluth, the commissioner of health seems to have succeeded better, for he has passed an ordinance demanding that the dairymen should purchase only tested cows, and he has threatened that if knowledge comes to him of any dairy-

man selling milk from cows that have not been tested, he will advertise the party in the daily press.

During the last four years the Department of Agriculture of the United States has suggested to the state experiment stations a more cleanly method of milking, through the use of a specially devised covered milk pail; the proper care of the herd and the use of this pail assure the consumer a cleaner, purer milk.

Inspection of Slaughtered Cattle.—The Federal inspection of slaughtered cattle intended for home consumption, as made in our large packing houses, is exceedingly inadequate, owing to the rapidity with which animals are slaughtered. The most careful inspection is given to meat intended for export trade, for Europeans have recognized the danger which comes from eating infected meat; indeed, we are told that meat which is not considered salable in foreign markets is accepted and consumed by Americans. No one could have read the articles which appeared in the London *Lancet* in January, 1905, or recent magazine articles in this country, without feeling that meat totally unfit for consumption is constantly placed on the home market.

SCHOOL REGULATIONS.

A few states have laws to exclude tuberculous teachers or pupils from public schools, and in most of those states which have enacted such laws they are not enforced. That the daily contact with the tuberculous in the average ill-ventilated school room by children who are susceptible to the disease, is a menace to the health of the community, is a well-known fact. The exclusion of those already afflicted should be insisted on and a requirement made that teachers applying for positions in public schools furnish certificates of health from the state or city health board.

At a recent meeting of the State Board of Health of Minnesota, the following questions were presented by Dr. Bracken:

Are you willing to aid in the control of consumption? If so, see to it that those suffering from this disease are not employed as teachers: 1. Because they cannot hope to recover while following such an occupation. 2. Because they are a menace to the school children under their care.

See to it that children suffering from this disease are excluded from the schools: 1. Because their recovery is not probable if they are kept under the strain of school life. 2. Because the importance of fresh air, rest and good food is greater for the growing child than for adults, and the child attending school does not get the necessary amount of these. 3. Because close confinement in school may be followed by other kinds of tuberculosis than consumption, and may be followed by deformities or death. 4. Because school children suffering with consumption (pulmonary tuberculosis) are a decided menace to their associates. 5. Because by excluding them from school and allowing them to recover, and at the same time preventing the infection of others, many lives of value to the state will certainly be saved.

Rigid inspection of schools should be made by health boards, attention being paid to the instruction of teachers in the care of their charges during school hours.

Dr. Wm. C. Woodward, health officer of the District of Columbia, suggests that the most important feature in the spread of tuberculosis is the proper education of the community through the public schools. He says:

If hygiene, including the hygiene of transmissible diseases, were introduced into all the public schools of this country, and given a position of importance at least equal to that of geography, public lectures and exhibitions with respect to tuberculosis would soon be unnecessary, and every individual in the community could be reasonably relied on to protect himself and possibly to protect others from danger of infection. At least the number who are willing to do so would be sufficiently large to demand and to procure the enactment of legislation that would bring their more ignorant and more obstinate fellow citizens to terms. The greatest obstacle to the enactment and enforcement of laws designed to bring about hygienic conditions arises from the ignorance of the community with reference to the necessity of such legislation, and the best culture medium for quackery is ignorance of physiology and hygiene.

School rooms should never be used for public meetings. There is little tendency to this in the larger cities, but in smaller communities they are often used for lectures and various social purposes. The danger from thoughtless expectoration is obvious. If they must be used for such purposes, they should be properly disinfected in each instance.

State or city charges, if tuberculous, whether in prisons, houses of correction, asylums or almshouses, should be separated from their companions. Some states have already taken this matter in hand, and have provided separate buildings for their tuberculous dependents. I would further suggest that every general hospital should isolate patients who are tuberculous, irrespective of the disease for which they were admitted.

STATE AND CITY SANATORIA AND DISPENSARIES.

The question of establishing state and city sanatoria is a very complex one. Theoretically, indigent consumptives should be cared for by the state, but in this age, when politics enter more or less into the management of public institutions, the results are not yet all that could be desired. Recent reports prove that the most successful institutions of this character are those founded by private enterprise and charitable associations. If the indigent consumptives are to be housed and controlled we can not have too many institutions for their care, and it is the duty of the state and city to do their share in the work. Large state institutions have proved themselves to be unwieldy, and the entrance of political considerations has seriously impaired their efficiency. A solution of this difficulty, at once largely eliminating the political features and greatly increasing the efficiency, would be the establishment by each county of an institution caring for the tuberculous of that particular community. These institutions could receive an appropriation from the state and be under the supervision of the state board of health, but the greater portion of the burden of their erection and maintenance should fall on the community whose citizens receive the care of the institutions.

The demands on every state and city treasury are enormous, and most officials hesitate to incur additional expense for work which does not appeal to them as vital. The first step toward gaining their co-operation in this movement is to convince them that it has an economic as well as a medical aspect. The effort to do so has been made repeatedly, and a temporary interest has been aroused. That the interest has not been permanent is due to lack of persistency on the part of the agitators. Moreover, for the care of the tuberculous who are charges of the state, the erection of elaborate buildings is unnecessary, and a cause of much discontent to this class after they return to home life. Adequate accommodations in which the best of results can be obtained may be provided at a cost of from $150 to $200 a bed. This erection of inexpensive sanatoria is a matter which would enable cities, towns, and counties to care for their tuberculous poor at a minimum cost and at a saving of many lives, for the

isolation and control of each individual case removes one more focus of infection from the community. Many cities have free dispensaries, especially those in which medical schools are situated, but they should be in every city, supported by municipal funds, and placed under competent medical direction. At such dispensaries it should be possible for poor consumptives to obtain free milk and eggs, as well as medical advice and treatment.

The Parker Hill Experiment.—During the summer of 1905 the Boston Association for the Relief and Control of Tuberculosis conducted an experiment worthy of more than passing notice, in establishing the Parker Hill Day Sanatorium. This was under the supervision of, and its success was largely due to, Dr. David Townsend. I quote from the report of the committee appointed by the Suffolk District Medical Society to investigate the crusade against tuberculosis in Boston:

> In an orchard on Parker Hill rude structures and tents were erected, and here consumptives from the tenement districts of the city were provided for during the day. They were given lunches and dinner, medical supervision and nurses' care, and at night returned to their homes, to repeat the same thing the next day. This new departure has met with the approval both of the public and the profession, and has accomplished two objects, the improvement of the patient's condition, and his education, and, through him, that of his family, in the open air cure and hygienic modes of living.

I am not familiar with the further reports concerning this movement, but it is one worthy of emulation by organizations in other cities, and should receive support financially and otherwise from city authorities.

Prophylaxis for Government Employés.—Washington, D. C., being under the Federal government, presents conditions which are unique. President Roosevelt has shown himself thoroughly alive to the essentials of the problems with which we are dealing. He has urged before two sessions of congress that Washington be made a model city in all respects, a model to the municipalities of this country. He has given special attention to the problem of tuberculosis.

After receiving a report from the committe appointed by an executive order of December, 1905, to prepare a plan for the prevention of tuberculosis in government workshops, he issued an order directing that the head of each department in Washington should see that the rules prepared by this committee should be posted in every public building under his control; that names of persons in his department who are afflicted with tuberculosis should be ascertained and a copy of the rules be presented to each; that non-observance of the rules may at the discretion of the department head be considered just cause for separation from the service. The order further provides that, when there is doubt as to a person in the government service being afflicted with pulmonary tuberculosis, an order must be issued for an examination at one of the government laboratories, and that a certificate showing the result of that examination must be presented to the department. When a government laboratory is not accessible, examination shall be made at the government expense. This order applies also to the employés in government buildings and workshops belonging to the Army and Navy and to the Marine Hospital Service.

Through the efforts of the President, much will undoubtedly be done in Washington toward suppressing tuberculosis. For his initiative he deserves the thanks of all those who have this problem at heart.

We recognize that the greatest problem before the profession to-day is that of the suppression of tuberculosis. Its solution does not lie in the cure of the individual case; if we had in our hands to-day a specific, the problem would still remain unsolved. The disease is primarily a disease of communities; it obtains a foothold and exists in the country only through ignorance of the means of its transmission and the modes of its infection. The most direct and effective blows against its strongholds must be dealt by municipal organizations. It is not a problem for the student and recluse alone, but to his talents must be added those of the man of action and executive ability. We are already in possession of sufficient scientific knowledge to deal with the problem; there remains the necessity of public education and the working out of business details.

While the profession may not agree on all minor points as to treatment, suitable climatic conditions, and general management, on certain broad principles we may stand as one man. Some of the best work that is being done in the country to-day is being done by enthusiastic, unselfish men, who are working along the lines which have been already successfully followed in the hardly won victories of the last half century over other specific infectious diseases.

Speaking from the standpoint of a specialist in tuberculosis in charge of an institution, I recognize that the eradication of the disease does not lie in the successful treatment of the individual case, but rather in the control of the disease, and the elimination of those vicious conditions which give it rise, by state and municipal organizations; along these lines, the best energy of a united and public-spirited profession should be concentrated.

DUTY OF RAILROADS IN TRANSPORTATION OF TUBERCULOUS PASSENGERS.*

JOHN R. HAYNES, M.D.
LOS ANGELES.

The contagiousness of tuberculosis is not now denied by scientific men of medicine.

A leper menaces the health and lives of those with whom he comes in contact very much less than does one suffering from pulmonary cavities and expectorating sputum laden with tubercle bacilli. How absolutely illogical and untenable is our position when we lift up our hands in holy horror while listening to accounts of the ignorant Kanakas who sleep, eat, and smoke with their leprous relatives and hide them from the minions of the law who have come to separate the sick from the well, while we associate in the same way with our tuberculous, only we are not obliged to hide them because we have not advanced so far as the Kanaka authorities in the protection of society at large by isolation. If these premises are correct, then the public should be protected while traveling, at least as much from the tuberculous as from the leprous passenger.

Undoubtedly many people contract tuberculosis while traveling on railroads and, more especially, while traveling in sleeping cars.

I have crossed this continent at least twenty times and do not remember an occasion when there has not been some one with tuberculosis in the car in which I lived, and, generally, a number on the same train, and on sev-

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

eral occasions death from tuberculosis has occurred. You will pardon me for mentioning an instance or two which will forcibly bring to your minds the danger of permitting tuberculous passengers to travel freely with others.

A year ago when I was crossing the continent, a passenger who bore all the ear-marks of advanced pulmonary tuberculosis—hollow cough, expectoration, emaciation, shallow, rapid respiration and hectic flush—entered the Pullman sleeper. In the morning he was the last one to arise and when the curtains of his berth were removed I saw that the window at the head of his berth was so covered with sputum that the glass was translucent instead of transparent. What possessed the man to expectorate against the window I do not know. He left the car soon after arising and the porter cleaned the window in the perfunctory manner common to men filling his position. On returning to my seat after a couple of hours stay in the smoker I found that a woman and little girl had been assigned the berth just vacated by our tuberculous passenger, and the little girl was standing on the seat looking out of the window with her face pressed against the pane and, as is the common custom among children, touching it with her tongue and lips.

On another occasion when I was coming from the East, a man and wife and two children entered our car at Las Vegas and occupied the drawing-room from which had emerged a passenger so emaciated and feeble that he had to be supported on both sides and whose choking cough all through the long night had driven sleep from many of us. This man had lived in that drawing room during the trip from Chicago to Las Vegas. What a frightful uproar would ensue if a leper were brought into a car, and how very soon would he have the car to himself! Yet the danger from the tuberculous passenger is many times greater.

SUGGESTIONS FOR REMEDYING THESE CONDITIONS.

To me your chairman has assigned the duty of making some suggestions for remedying the vicious conditions which menace society in transit.

I would suggest that added to the questions now asked by the ticket agent of those about to make long distance journeys, should be the following: Do you cough? If the reply is in the affirmative, then the would-be passenger must bring a certificate from the health department —if there is no health department, then from the railroad physician, and, lacking the latter, then from any reputable physician—stating the cause of cough.

If the case is one in which, in the opinion of the health officer, death within a few months or a year is inevitable, then a ticket should be refused the applicant unless he is being sent to a sanitarium to end his days or is away from home and desires to return.

Let me here protest with the utmost earnestness against the practice very prevalent in the East of sending away from home patients who can live but a few months at the least, and who frequently die *en route*. Probably every day in the year a large number of unfortunates afflicted with tuberculosis leave comfortable homes and journey toward California. If they are so fortunate as to get there alive, they may live in our midst for a few miserable weeks or months, or, possibly, one or more years, and then, strangers in a strange land, die that saddest of all deaths. They receive no ultimate benefit themselves, but, scattering about them death-dealing sputum, they constitute a menace to all around, but more especially to those who have inherited constitutions that are incapable of resisting the onset of tubercle bacillus.

Special Cars.—Should, however, the health officer hold that recovery is possible in the climate in which the passenger proposes to seek relief, then he could be informed that he can go on a certain day, on a certain train and in a certain car.

This should be a compartment car with compartments opening on a corridor running along one side of the car and not in the center. Each compartment should have two berths placed lengthwise with the car, a water closet not enclosed and a folding wash-stand with running water. (This is the regular compartment car used on a number of our railroads). The floor should be covered with linoleum or, better, should be of cement and a small rug used. The upholstery should be of leather or, preferably, of movable cushions with washable covers. The hangings, if any, should be of washable material and the wood-work as plain as possible. All dejecta should be thoroughly disinfected before being allowed to escape from the closet. The sputum cups should be of paste board and should be burned in a stove designed especially for that purpose. There should be such a stove in each car.

Each hospital car should have a trained nurse in attendance whose business would be to care for all who needed her attention.

The hospital car should be attached only to trains having dining cars, and all meals should be served a la carte at reasonable rates to the passengers in their compartments and all dishes should be thoroughly disinfected and the paper napkins burned.

The cars should be run as often as necessary, once a week or once in two weeks and should be large or small as the railway companies should decide from experience.

Disinfection.—When a compartment is vacated by a tuberculous passenger, it should not be used again until thoroughly disinfected with formaldehyd, everything washable boiled, the wood-work and floor thoroughly cleansed and the movable cushions, mattresses and blankets disinfected in a hot room. These rooms should be at railway terminals, where supplies of disinfected cushions, blankets and mattresses could be obtained without causing any more delay than is made necessary by thorough cleaning of the compartments; but owing to the comparatively long intervals in the departure of hospital cars there would be sufficient time for thorough disinfection.

Short Journeys.—For those traveling a short distance covering only a few hours, a portion of a car could be set apart—a portion like the smoking compartments of the baggage car, for instance, without upholstery. It should be a chair car with one row of chairs only along each side of the car and near each chair a small, movable compartment into which a paste-board sputum cup could be placed and which could be lifted from its bracket and disinfected and the sputum burned at designated places.

These cars, like the hospital sleeping cars, could be run once a week, or a small portion of one car holding from four to six chairs could be run once daily.

OBJECTIONS.

The railroad company may object to carrying out the ideas suggested on account of the fact that they would be losing interest on the cost of cars not in constant use, and on account of the expense of an attendant or nurse and the extra expense of disinfecting by heat. But when we consider the enormous amount of money spent in palaces on wheels by the railroads, we believe that any

objections on the grounds of expense would not be well-founded, for they owe protection to society.

With reference to passengers of limited means traveling a long distance the health authorities should bear a part of their expenses, as they would if transporting those sick from other contagious diseases, such as leprosy or smallpox.

The objection is raised that people would decline to travel in the manner suggested, being branded, as it were, as diseased creatures to be avoided. Sentiment must be brushed away and tuberculous passengers must travel in such a manner as society may prescribe, in order that the many shall be protected. It should be thoroughly understood, by being published in the papers and in railway literature and, if necessary, by being printed on the tickets, that any tuberculous passenger evading by false representations the provisions for public protection, if discovered *en route* shall be put in the hospital car, if one be attached to the train, or be put off the train at a station where he could be cared for and compelled to wait until the first hospital car going his way arrives; and a heavy fine should be imposed on any physician who would connive at any evasion of these protective regulations.

These suggestions have been submitted to the passenger agents of two large transcontinental lines and they declared them practicable and feasible provided the various state health authorities or boards place tuberculosis on the list of contagious diseases. This would give the railroads the legal power to refuse tickets to any one suspected of having tuberculosis or any other contagious disease unless authorized by the health officer of the community where the ticket is sold. I think those who control the railroads will soon awaken to the necessity of thorough disinfection and isolation and thus add materially to the safety and comfort of their travelers.

THE VALUE OF THE SANATORIUM IN THE CRUSADE AGAINST TUBERCULOSIS.*

CLARENCE L. WHEATON, M.D.
CHICAGO.

The progress of scientific medicine during the past decade has indeed been phenomenal. The original investigator has made contributions of seemingly untold value to us in the diagnosis and treatment of many formidable types of disease, yet new problems in the care and treatment of the tuberculous are constantly arising, to which the many contributions to scientific medicine seem less applicable than in the case of other prevalent diseases of a less complex nature.

It is my purpose in presenting this paper to consider briefly one of the most important factors in the successful treatment of tuberculosis and solution of this great problem, not losing sight of the fact that there exists a social and economic aspect to the disease. Are we not demonstrating throughout the civilized world the cure of a disease at one time considered incurable? And the results achieved in this field of medical science are of far-reaching importance, of interest to the profession from a medical and humanitarian aspect, and to the public and laity from a social and economic standpoint. It is a melancholy reflection that a disease from which nearly one-sixth of our race falls victims, which is prevalent in every country and climate, and from which neither age, sex nor condition of life enjoys an immunity, a disease which presents more complex economic problems than any known, should until recently have been less understood and worse treated than any other to which humanity is subject.

Without regard to the circumstances of the patient or the stage of his disease, change of climate has been freely prescribed, and the hopeful sufferer finds himself in a strange land, surrounded by persons to whom his fate is a matter of indifference. He too often recognizes in those who administer to his wants individuals who perform ungraciously for hire services which in the home he has left would have been cheerfully rendered for affection. The human wrecks only recently observed scattered over the desert waste of the great southwest bear witness to this statement, as well as many wanderers seeking health in the mountain wilderness of some distant state, struggling for the mere necessities of life, with death an inexorable companion, and all the future dimmed by the shadow of waiting Charon. To these people, "climate," with its exhilarating dry air, blue sky and bright sunshine, is but a will-o'-the-wisp.

Our knowledge and the accumulation of facts relative to the modern treatment of tuberculosis is due in great measure to the influence of the earlier teachings of such men as Alonzo Clark, who fifty years ago, advocated the sanatorium for the care of the tuberculous. Rush, in his treatment of consumption, directed men into paths that are followed to-day. Bowditch demonstrated the pernicious influence of insanitary surroundings, particularly of soil and moisture, on the production of tuberculosis. He was one of the first to revive the doctrine of the infectiousness of consumption, and suggested a mode of treatment which precluded the possibility of the direct transmission of the disease. Trudeau has experimentally demonstrated the value of pure air in resisting tuberculosis and has assisted in demonstrating the worthlessness of so-called specific medication.

The pendulum has gradually swung from the old teachings to the new, directed through the influence of the pioneers in medicine, and to-day it has been clearly demonstrated that tuberculosis can be successfully treated and cured in any state of the union. The sanatorium, the ideal institution for the cure of the tuberculous, and the sanatorium idea is prevalent everywhere. After one hundred and twenty years of filth and disease the hospital method freed Havana; and the application of the laws of hygiene and sanitary science to the infected canal zone at Panama will reveal to the world the possibilities of modern medical science. And so with the tuberculosis problem; it must be solved in the sanatorium. As accessory to this central institution may be mentioned model free dispensaries in all cities, especially in crowded districts, open air day camps, information bureaus, lecture bureaus, experimental stations and various departments co-operating with the sanatorium under supervision of the state. This institution, properly managed, will control, discipline and educate the individual, especially in matters pertaining to personal hygiene, enabling him to go forth a missionary, as it were, in the art of proper living. Here the destitute from the great centers of population will find a home where they will receive proper treatment, where by means of segregation and careful supervision the dangers of infection to others may be eliminated, and where attention to detail may restore those patients not hopelessly diseased to lives of activity and usefulness.

The sanatorium bears a most important relation to the tuberculosis problem in the study of the economic course of consumption, especialy in wage earners. This phase

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

of the disease does not, however, present itself until the earning capacity of the individual ceases and he passes from a period of partial disability to one of complete disability with dependency.

When the economic activities of the individual cease, the usefulness of the citizen to the state is at an end. In 1905 there were 10,000 consumptives of the state of Maryland. Eight thousand had ceased to be economic factors in their communities, and the state must ultimately provide for their support, and, if possible, restore them to lives of activity.

Without fear of contradiction, tuberculosis can easily be placed second to insanity in the extent of dependency it produces.

Marshall Price has stated that of 177 wage-earning males, among whom careful inquiry was made concerning the original and ultimate economic condition, 72, or 40 per cent. became dependent on charity, and during the course of their disease 26, or 14 per cent. died in charitable institutions, and it was supposed that the majority of the others received at some time charitable aid.

In 1897 the Muskoka Cottage Sanatorium was established at Gravenhurst, Ontario, the first hospital, I believe, to be established by the state for the care of consumptives. The success of this institution resulted in the construction of another sanatorium, the two institutions having a capacity of seventy-five patients each. Since the establishment of the Gravenhurst Sanatorium there is scarcely a geographical division in the union not interested in the establishment of a hospital for tuberculous patients. Contracts have been let in New Jersey for the construction of a sanatorium to cost $225,000, exclusive of its equipment. Illinois has not as yet made any state provision for the care of the tuberculous; the Ottawa tent colony may eventually form the nucleus of a state charitable institution. The able management of this institution has effectively demonstrated that tuberculosis can be cured in Illinois as well as elsewhere.

It has been estimated that the eight thousand deaths from tuberculosis in Illinois in 1904 represent a monetary loss to the state of about forty million dollars. Admitting that 75 per cent. of the incipient cases could be cured in sanatoria, the state, by properly providing for these unfortunates, would annually save thirty million dollars. In Pennsylvania, deaths and illness from tuberculosis cause a loss each year of twenty-four million dollars. The loss of earning power during two or three years' illness and the increased cost of maintenance during this period has been estimated as equal to the direct loss from death.

The public services of the United States, the Army and Navy, and the Public Health and Marine-Hospital Service, are active in the antituberculosis crusade.

During 1904 the Fort Bayard (New Mexico) Hospital had a total of 644 soldiers suffering from tuberculosis. The results of the treatment reported in 643 cases were as follows: Twenty-two cases arrested, or 3.42 per cent.; improved, 340, or 52.88 per cent.; unimproved, 208, or 32.34 per cent.; died, 73, or 11.35 per cent.

Massachusetts was the first state in the union to adopt as a public enterprise methods which had been successfully used for many years abroad and later in our own country at private institutions.

In 1899, 68 per cent. of the incipient cases of tuberculosis were arrested at the Massachusetts State Sanatorium. In 1900, 73 per cent.; in 1901, 73 per cent.; in 1902, 72 per cent.; in 1903, 73 per cent.; and in 1904 76 per cent.

I am told that Boston was the first city in this country to establish a day camp for tuberculosis. The majority of the patients treated here gained materially in weight and strength and many were able to resume work.

The New York State Hospital for incipient tuberculosis at Ray Brook, in the Adirondacks, has issued a report for the first year of this institution. There were admitted 207 patients; in more than half the disease was in the incipient stage and there were no deaths. Of the 105 patients discharged, 52 were apparently cured; 26 arrested cases are reported; 16 improved, while 11 patients left without any improvement. Ninety of the 105 patients discharged gained an average of 10.5 pounds each.

The National Jewish Hospital for Consumptives in Denver and the Agnes Memorial Sanatorium in the same city are model institutions of their kind. The latter institution is a memorial to the mother of the millionaire, Lawrence C. Phipps. It is probably the foremost institution of its kind in the west designed for the care of those "whose physical condition gives promise of arrest or amelioration within a reasonable time." It is expected that the stay of each person will not exceed six months, and under no circumstances will hopeless cases be received.

The value of this institution to those who journey to Colorado can be appreciated by one who was a long resident of the state at a time when there were limited facilities in Denver and its immediate vicinity for the care of the tuberculous. Sixty-four and seven-tenths per cent. of the incipient cases were discharged cured; 17.65 per cent. were arrested; 17.65 per cent. were improved; in none did the disease progress, and none died; such is the record as shown from a recently published report of the Agnes Memorial Sanatorium at Denver.

The scientific solution of the tuberculosis problem seems at hand in Germany. The present rapid decline of the disease will result in its extermination in forty years or less. In Prussia the death rate has been lowered from 31 per 10,000 inhabitants in 1886 to 21 per 10,000 in 1900. This decline is in great measure due to the provision of sanatoria for the working classes and to the early and systematic resort to these institutions.

In New York City, the diminution from 1886 to 1901 has been more than 30 per cent.; it is the view of Dr. Biggs of the Health Department that with suitable methods of caring for the sick and proper precautionary measures, the death roll may be further reduced in a similar period of time.

These results attained in the so-called unfavorable climatic zones are of significance. We can no longer hold climate to be the one important factor in the cure of tuberculosis. It would appear that pure air of any climate is the chief essential in the arrest of this insidious disease.

We can not hope through the medium of the private sanatorium to achieve the most far-reaching results in the solution of this problem. The formation of antituberculosis associations which, through private benevolence, should initiate and control the sanatorium movement, only asking a certain amount of government aid, will not accomplish the desired end. We will find these institutions, like many other private sanatoria, excluding all the indigent tuberculous patients, accepting no hopeless cases, and the very element that should be brought under control still a charge on their friends; if friendless, they soon become dependent on the county or are left to die alone in some tenement house loft in a crowded city, exposing others to the dangers of in-

fection in an environment previously rendered insanitary.

The sanatorium in the crusade against tuberculosis has passed the experimental stage; the results achieved through persistent effort and honest endeavor on the part of the profession justify the co-operation of the laity through the medium of the state legislature.

Establish state institutions for the care especially of the tuberculosis poor that they may be cured of their disease and returned to the commonwealth able-bodied citizens.

"The prolongation of life by the suppression of preventable disease is of much greater value to the state than the cost of the means employed."

In the light of comparatively recent brilliant achievements in serum therapy, it is reasonable for us to assume that a more specific treatment for tuberculosis may yet be derived. As clinicians, however, we should accept only those measures applicable to the treatment of tuberculosis that are rational, and should not expose the unfortunate victim of this disease to widespread experimentation in exploiting so-called cures.

The open-air treatment of this disease through the medium of the sanatorium has effectually demonstrated that tuberculosis is a curable disease in any climate, and it becomes our duty as physicians to give to humanity the knowledge and facts we have gleaned in this field of medical science, endeavor, if possible, to eliminate the ever prevailing superstition in the efficacy of falsely advertised nostrums as a cure for tuberculosis, refuting in some measure the claims of charlatans.

Could we finally attain this end in our crusade against tuberculosis, much of the sorrow would forever be banished from the millions of afflicted homes and the night of tears changed to the morn of hope.

39 Pine Grove Avenue.

[THIS SYMPOSIUM ON TUBERCULOSIS WILL BE CONTINUED NEXT WEEK.]

AEROTHERAPY AND SOLAR THERAPY IN THE HOME TREATMENT OF TUBERCULOSIS.

WITH DESCRIPTION OF A WINDOW TENT.*

S. A. KNOPF, M.D.

Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Visiting Physician to the Riverside Sanatorium for Consumptives of the City of New York.

NEW YORK CITY.

As the most important threapeutic factor in the modern management of tuberculosis, we must consider fresh and pure air, and we can make the home treatment most successful when we imitate, so far as practicable, all the salient features of the sanatorium treatment. In these institutions the patients live outdoors virtually for twenty-four hours of the day. Let us now see how we can imitate this aerotherapy of the sanatorium treatment in the home of the patient.

In summer, of course, all the windows are open, and during the day we place our patients in the yard, on the veranda or on the roof, whenever and wherever conditions permit us to have the patient take what is known as the rest cure in the open air. Here he rests on a reclining chair with a proper knee bend and comfortable back. If the patient can afford it we get him also a half tent. This half tent is composed of a frame of steel tubing, which can be folded together when not in use (Fig. 1). Over this frame strong sail duck is stretched and secured by snap buttons on the inside, so as completely to protect the patient against wind and sun. To prevent the tent from being overturned by the wind, the frame has ground spikes holding it securely. A beach wicker-work chair can also be made to do the service of the half tent. After the seat has been removed the inner walls of the wicker chair are lined with padding. A reclining chair is placed with its back in the interior, and the whole so arranged that the patient is protected from the wind and sun. Whenever the patient is on the chair he should be so comfortable as to allow complete muscular relaxation. Mind and body must be at rest.

For poor patients the simple steamer chair and a few boards joined together to replace the costly half tent will have to answer the purpose. A large and stout umbrella, such as is often used at seaside resorts, can be fastened to the back of the steamer chair, and will answer the purpose when the tent can not be provided. The poor patient in cities will probably be obliged to resort to the roof for his rest cure, as the small yard of the tenement house, with many children playing in it, will scarcely be suitable. I do not favor the use of the fire-escape for this purpose. A recent conflagration in New York City, where many lives were lost owing to the obstruction of the fire escape, showed the dangerous results of evading the law in this way. On his reclining chair in the open air the patient should remain during the day whenever he is not taking any walking exercises.

Fig. 1.—Half tent with patient resting on metal reclining chair taking the rest cure.

In the modern American, and also in some European sanatoria, the majority of patients have their beds moved out on the veranda during the night, and there they sleep, often in the coldest weather. The brilliant results obtained through this method of sleeping outdoors in cold weather are too well known to all American physicians to need further mention here. What has worried me for years has been the fact that we could provide this open-air treatment at night only for

* This is the chapter on Aerothreapy and Solar Therapy of an address on the Home Treatment of Tuberculosis delivered by invitation before the sixth Annual Conference of Sanitary Officers of the State of New York at Syracuse, Oct. 29, 1906.

so relatively small a number of patients when there are so many who need it, particularly among the consumptive poor. I believe that I have been fortunate enough to solve this problem in a measure by an invention which I call a "window tent." The first model of this device, which I presented to the profession, and in the construction of which I had the kind coöperation of the former resident physician at Riverside, Dr. McLaughlin, had many defects. It was nevertheless put in practical use by a number of physicians and by myself. A second model was somewhat better, but far

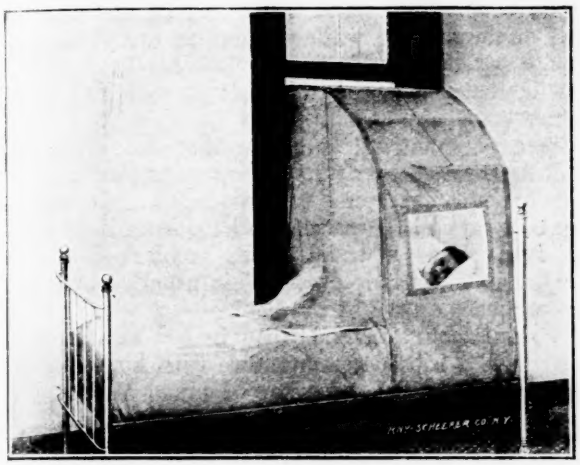


Fig. 2.—Window tent in position, with patient in bed and looking through the celluloid window into the room but breathing outdoor air only.

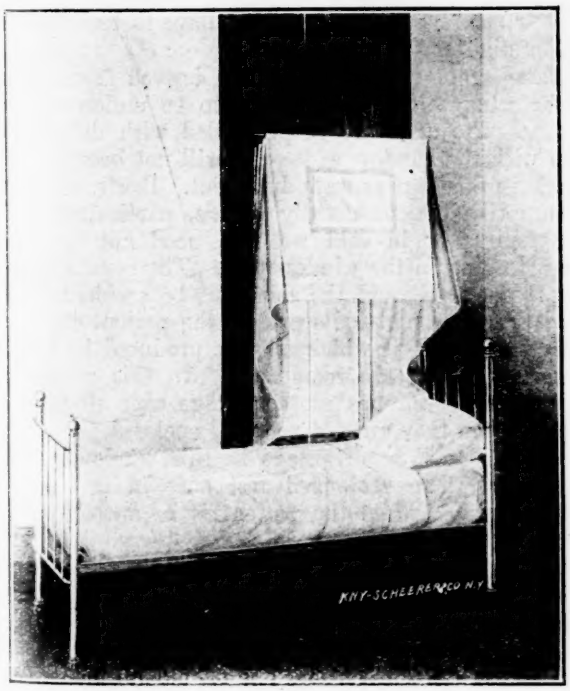


Fig. 3.—Window tent, raised when not in use.

from being perfect. In the third model I have tried to overcome all the defects learned through my own experience and that of others in the use of the tent. The Kny-Scheerer Co. have incorporated all my suggestions in their latest device, and on my request have refrained from seeking a patent. I am particularly grateful for this generosity on their part, for the tent will be of greatest service to the consumptive poor unable to avail themselves of sanatorium treatment. Many of them will not even be able to pay the modest price at which the window tent is now put on the market, but with the illustrations before them they may have sufficient mechanical skill to imitate the device at very little cost.

The advantages of the last model of the window tent over the former models are greater simplicity and cheapness in construction, greater facility for cleaning and disinfecting and a method of attachment which permits the removal of the tent from the window when not in use.

As the illustration shows, this window tent is an awning, which, instead of being placed outside of the window, is attached on the inside of the room. It is so constructed that the air from the room can not enter or mix with the air in the tent. The patient lying on the bed, which is placed parallel with the window, has his head and shoulders resting in the tent (Figs. 2, 3, 4, 5). By following the description closely it will be seen that the ventilation is as nearly perfect as can

Fig. 4.—View of the window tent with patient, taken from the outside.

be produced with so cheap a device. The tent is placed in the lower half of the window, but it does not quite fill the lower half of the frame, a space of about three inches being left for the escape of the warm air in the room. By lowering the window, this space can be reduced to one inch or less, according to need, and on extremely cold and windy nights there need be left no open space at all above the window frame. The patient's breath will rise to the top of the tent, the form of which aids in the ventilation.

The tent is constructed of a series of four frames, made of Bessemer rod suitably formed and furnished with hinged terminals, the hinges operating on a stout pin at each end with suitable circular washers interposed to insure independent and easy action in folding, the Bessemer rod being hardened to make a stiff, rigid frame to insure maintaining the original form. The frame is covered with 7-ounce extra thick yacht sail

twill, properly fitted, and having elongated ends to admit of their being tucked in under and around the bedding to prevent the cold air from entering the room.

The patient enters the bed and then the tent is lowered over him; or with the aid of a cord and a little pulley attached to the upper portion of the window he can manipulate the lowering and raising of the tent himself. Shutters or Venetian blinds, whether they are attached on the inside or on the outside of the window, can be utilized in conjunction with the window tent as a screen to intercept the gazes of the neighbors and in stormy weather as a protection. The bed can be placed by the window to suit the patient's preference for sleeping on his right or left side, so that he has the air most of the time in his face. Another advantage of the window tent is that it will not attract attention from the outside. The bed being placed alongside the window will be convenient for a majority of the poor who have small rooms; if, however, the bed must be placed at a right angle to the window, it can be so arranged.

A piece of transparent celluloid is placed in the middle portion of the tent to serve as an observation window that the nurse or members of the family may watch the patient if necessary. It also serves to make the patient feel less outdoors and more in contact with his family. He can, if he desires, see what is going on in the room. If the window tent must be placed at a right angle to the window, the observation glass can be put in on the side. It goes without saying, that, as a rule, patients should not smoke; when, in exceptional cases, this may be allowed, the danger of the celluloid window becoming ignited must be impressed on them, and the greatest caution urged. I prefer celluloid to ordinary glass for this purpose, because it can easily assume the vaulted form of the rest of the tent, and thus avoid even the slightest possibility of an air-pocket formation.

If it is necessary to raise the bed to the height of the window sill it can be done with little expense. If the bed is of iron, a few additional inches of iron piping can be attached to the legs by a plumber or by any one handy with tools; a wooden bed can be raised with equal facility. If the window tent is to serve the patient only during the night it can be pulled up and the bed moved away from the window during the day and the window closed; or the tent can be taken from the hooks and put out of the way.

The window tent, of course, will be of greatest service to the consumptive sufferer in winter. If he is feverish, or his stay in bed is advisable, he can spend his entire time in the window tent. If the people are poor, and the room in which the consumptive sufferer lies serves as a living room for the rest of the family, the fact that the well members need not shiver and yet the patient can take his open-air treatment, is of vital importance in many respects. While the room will not be quite so warm as if the window were entirely closed, it will be much warmer than if there were no tent in front of the open window. Laying aside the economic advantages to a poor family in not being obliged to heat more than one room, the patient feels that he does not deprive his loved ones of comfort and warmth and that he is less a burden and hindrance to their happiness. The other members of the family, on the other hand, feel that they can give the patient all the air he needs and that he himself need not suffer for their comfort.

In winter the patient's bed must be covered with a sufficient number of blankets to assure his absolute comfort and warmth throughout the night. Still, this covering should not be so heavy as to press on the body and make the patient feel uncomfortable or tired. The tightly woven blanket is a better protection than the loosely woven one. To the poor, whose supply of blankets is, alas, often very limited, it may be valuable advice to tell them to put several layers of newspapers between the coverings. *Outdoor Life* for December, 1905, recommends having a dozen layers sewed between two layers of flannel. This will certainly make a cheap, light and warm covering. In extremely cold weather the patient, while sleeping in the window tent, should wear a sweater and protect his head and ears with a woolen cap, shawl or helmet, such as shown in Figure 6.

Some patients will complain that the bright light awakens them too early in the morning, and that they have difficulty in going to sleep again. In such instances I counsel the patient to have some light weight, but dark-colored material (such as black lisle thread hose) to put over his eyes. This usually obviates the inconvenience caused by the light.

The pulmonary invalid when in bed should be provided with a bell to communicate with his nurse, relatives or friends who take care of him. He should, of course, have a small sputum cup or pocket flask handy to receive his expectoration. I prefer the flask for use in the window tent, for it seems to me that any kind of a cuspidor which had to stand on the window sill would not be safe, as there is always a danger of its falling. A urinal should also be placed at the bedside, so that the patient will not have to leave the bed in the night.

There is one more benefit to be derived from the use of the window tent that is not to be underestimated. Patients who can only be persuaded with difficulty to sleep with the window wide open will not hesitate when they have this tent as an inducement. Draft, which the consumptive patient usually dreads, particularly when he perspires or in cold weather, need not be feared when sleeping in the window tent. The construction is such that even should the shoulders be accidentally exposed the three tent-walls protect the patient from violent currents of air which may be produced by leaving opposite doors in the room open. In this respect the window tent even has an advantage over sleeping on porches when they are not properly enclosed.

There is another advantage in this window-tent arrangement. The prolonged rest cure in bed will be more endurable when the patient is permitted to look out on the street and to watch life there, than when obliged to gaze at the four walls of his room.

When arranging for the rest cure on the reclining chair during the day, whether it is in the half tent in the garden, on the veranda, in the sleeping shack, on the roof, or on the balcony, one should always bear in mind that it is much more agreeable and conducive to the well-being of the patient, when taking the cure, to have a pleasant view to look on. In building a sanatorium, the greatest attention is paid to the proper selection of the place for the rest-cure gallery or veranda. The more pleasing and entertaining the outlook from these places, the more certain is one to keep the patients quiet and restful.

Lastly, an important point gained by the use of the window tent for consumptives is in regard to drop in-

fection, that is to say, the prevention of the dissemination of the bacilli through particles of saliva expelled during the so-called dry cough, sneezing, etc. While as a matter of course, the patient should be taught to always hold his hand or handkerchief before his mouth, when he coughs or sneezes, this is not always done, and to limit the possible infection to the interior of the window tent is obviously a great advantage. First, the constant exposure of the bacilli, which may have been expelled, to air and light will soon make them innoxious; and second, in this last model of the window tent the canvas of the tent is attached to the frame by simple bands so that its thorough cleansing, washing or disinfection is made easy.

Northrup and others have recently demonstrated that the ideal treatment of pneumonia is likewise pure, fresh and cold air by day and by night. When sleeping on the roof or in the open air is not feasible, the window tent is admirably adapted to the treatment of this disease in adults and in children. Thus, even if an intercurrent pneumonia should develop in the tuberculous patient, the window tent would be still of great service.

When there is no garden, veranda nor roof, the window tent can also be brought into service for the rest

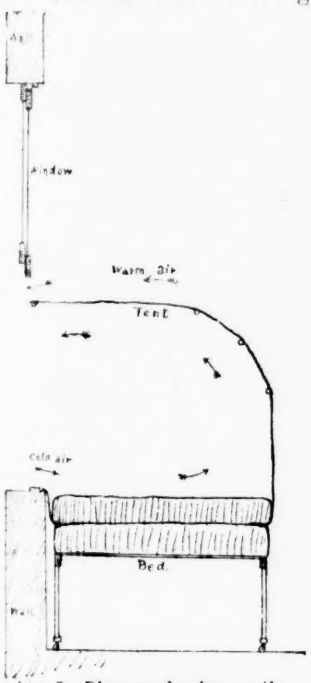


Fig. 5.—Diagram showing ventilation of window tent.

Fig. 6.—Woolen helmet to be worn when sleeping outdoors in cold weather.

cure during the day. The bed is moved away and the reclining chair is put in its place. The latter can be raised to the necessary height by wooden blocks or a platform and with the aid of blankets and comforters the air from the room can be excluded, and the patient being in front of the open window breathes only outdoor air. When beginning this aerotherapy, it is, of course, essential that it be done gradually according to the susceptibility to cold of the patient. Impress on him the fact that night air is as pure as day air, and begin by placing him in the tent for a few hours at night and a few hours during the day in the chair, gradually accustoming him to living in the pure air day and night. A hot-water bottle for the feet, either in bed or in the chair, may often be necessary in extreme cold weather, for the patient's feet must be kept warm if he is to be benefited by the open-air treatment.

As an adjuvant in aerotherapy I must not forget to call attention to the importance of respiratory exercises. I have repeatedly described and illustrated them in my books[1] and various articles,[2] so that I do not think it necessary to dwell on the details of this phase of aerotherapy at this time. I will simply say that these exercises judiciously taught and carefully carried out are suitable in nearly all afebrile, early and moderately advanced cases. Even in the third stage I have seen beneficial results from judiciously directed breathing exercises. Most careful clinical observation made under Dr. Otis,[3] at the Massachusetts State Sanatorium, prove conclusively the value of careful breathing exercises in the treatment of pulmonary tuberculosis. The pneumatic cabinet must receive mention as a second adjuvant in aerotherapy of pulmonary tuberculosis. Those interested in this subject can refer to the works of Bowditch,[4] Quimby[5] and others. I have also described its indication and contraindication in my text-book on Pulmonary Tuberculosis.

After aerotherapy comes solar therapy or heliotherapy, that is to say, the utilization of the rays of the sun in the treatment of pulmonary tuberculosis. To be as brief as possible, let me give the concise directions which I think should be followed in order to get the best possible results from the sun bath:

The sunniest room should be selected for the purpose. Fixed carpets, of course, should not be placed in such a room, and the floor must be kept scrupulously clean. In a private home, where neighboring windows are often near, the arrangement will be more difficult, and low screens will have to be used. In winter the room should be heated to from 70 to 75 F.; as the patient's skin becomes less sensitive, the temperature of the room can be decreased. The room must always be well ventilated, and in summer the upper part of the windows can be left open.

The patient undresses entirely, but if he complains of cold feet he can keep on his stockings and even his shoes until he has become warm enough and desires to take them off. He first places a warmed sheet around his body and then a large blanket; he then lies down on the floor in the sun, his head in the shade and slightly elevated by a cushion. As he begins to feel the warmth of the rays of the sun, he gradually uncovers himself until the whole of his body is exposed to the sun; he exposes his back by turning on his chest. He remains in the sunroom for from half an hour to two hours, according to the instructions given him by his physician. He may change the recumbent to the sitting position or walk about.

Like all curative agents in the treatment of phthisis, the carrying out of this solar therapy should never be left to the caprice of the patient. Too much exposure to the hot rays may cause an erythema, an urticaria or other cutaneous trouble. To prevent these the patient should cover himself with one or even two layers of his sheet whenever the sun's rays produce a slightly burning sensation. Should these cutaneous complications occur nevertheless, the sun baths must be omitted for a

1. Les Sanatoria, thesis, Paris, 2 Ed., 1900. Pulmonary Tuberculosis, Prophylaxis and Treatment, Blakiston, Phila. Tuberculosis as a Disease of the Masses and How to Combat It. Am. Ed., F. Flori, New York City.

2. Johns Hopkins Med. Bul., September, 1901. Ann. of Gyn. and Ped., 1903, xvi. Jour. of Outdoor Life, July, 1905.

3. Otis: Trans. Nat. Assn. for Study and Prevention of Tuberculosis, 1906.

4. Bowditch: Boston Med. and Surg. Jour., July 16, 1885; and THE JOURNAL A. M. A., Aug. 1, 1885.

5. "The Pneumatic Cabinet in the Treatment of Pulmonary Phthisis," Internat. Med. Magazine, January, 1893.

time and the skin bathed in warm water, and friction with lemon juice applied. Headache, or a feeling of discomfort, is the signal to stop, no matter how short a time the bath has lasted. A high temperature is, of course, a contraindication to sun baths; such sensitive patients must remain in bed. Slightly feverish patients may be allowed to try solar therapy, but when experience shows that the baths are followed by an elevation of temperature, they must be discontinued. While taking his sun bath, the patient should perform frequent abdominal and thoracic breathing exercises.

If it is not possible to take sun baths, or enough sun baths, undressed at home, patients should be advised to take them outdoors, and should be told to dress as far as possible in light-colored clothes—never in black, red or brown—so as to permit the better penetration of the actinic rays. Patients should always take an umbrella or parasol with them to be able to shade their heads.

16 West Ninety-fifth Street.

RESUME OF THE COMPLETE GASTRIC ANALYSES IN SIXTY-ONE CONSECUTIVE CASES OF INDIGESTION.*

ALBERT WOLDERT, M.D.
TYLER, TEXAS.

I have previously reported 30 consecutive cases of indigestion which I treated in private practice, and in which complete gastric analyses were made.[1] I now supplement that report by adding to the list 31 new cases, thus making a total of 61 cases reported to this date.

In my treatment of stomach disorders I have to a large degree followed the methods outlined by Ewald, as follows: 1, To secure a complete accurate history of each patient; 2, to determine the percentage of free hydrochloric acid; 3, to determine the percentage of total acids; 4, to determine the motor power of stomach; 5, to determine the absorptive power of stomach; 6, to determine the digestive power of gastric juice on albumin (meats); 7, to determine the digestive power of gastric juice on starch (breads); 8, to determine the presence or absence of the milk-curdling ferment (rennin); 9, to determine the presence or absence of bile in the gastric contents; 10, to determine the size and position of the stomach.

In order to determine the percentage of free hydrochloric acid, I have used the decinormal solution of sodium hydrate, which I always prepare myself by standardizing this decinormal solution of soda with a decinormal solution of oxalic acid, the crystals of which acid have been purified by boiling, recrystallizing and washing with ether. Several titrations are often necessary in standardizing the decinormal solution of sodium hydrate, for on its accuracy depends the most important data to be obtained by the stomach examination, namely, the determination of the percentage of the free hydrochloric acid in the gastric contents.

The indicator used for the free hydrochloric acid was the Töpfer reagent in nearly every instance, being confirmed by the tropeolin test; for the total acids I used the phenolphthalein test; for the digestive power of albumin the white of egg; for the digestive power of starch the Lugol solution; for the motor power in perhaps ten instances the salol test was used, but in the others lavage three and one-half to four hours after a small meal; for the absorptive power the potassium iodid test; for the milk-curdling ferment (rennin) about 2 drams of milk to three or four drops of gastric juice, and placed in an incubator; and for the presence of bile the nitrous-acid test. The size and position of the stomach was determined by inflating the stomach with air, supplemented by gentle percussion.

To complete the examination, I have in nearly every instance made a careful examination of the heart, lungs, liver, spleen, urine, and when the occasion demanded it tested the eyesight for defective vision, examined the blood for the malarial parasite and made a microscopic examination of the gastric contents.

I have made it an almost invariable rule not to prescribe for a patient suffering with gastric trouble on his first call to see me, but require that he shall wait until the complete gastric analysis has been made before giving medicine. Since I have been engaged in this work I have been much impressed with the importance of making these examinations, and often have brought before me cases showing how futile all efforts would have been if I had tried to guess at the real condition present as suggested by the different symptoms presented.

SUMMARY OF THE SIXTY-ONE CASES OF INDIGESTION.

Entire number of cases in the series and treated in private practice was 61.

Variation in Percentage of Free Hydrochloric Acid.

Free HCl was normal (.040 to .073 per cent.) in 10 cases or 16.66 per cent.

Free HCl was diminished (below .040 per cent.) in 7 cases or 11 per cent.

Free HCl was increased (above .073 per cent.) in 35 cases or 57 per cent.

Free HCl was totally absent in 9 cases or 14 per cent.

Percentage of Free Hydrochloric Acid.

Free HCl above .073 per cent. in 35 out of 61 cases or 57 per cent.

Free HCl above .10 per cent. in 22 out of 61 cases or 36 per cent.

Free HCl above .15 per cent. in 10 out of 61 cases or 16.66 per cent.

Free HCl above .20 per cent. in 2 out of 61 cases or .3 per cent.

Percentage of Total Acids.

Total acids were normal (35 to 60 per cent.) in 37 cases or 61 per cent.

Total acids below 35 per cent. in 14 cases or 23 per cent.

Total acids above 60 per cent in 8 cases or 13 per cent.

Total acids above 88 per cent. were none (highest percentage was 88 per cent).

Total acids below 4 per cent., none (lowest percentage was 4 per cent.).

Motor Power of Stomach.

Motor power of stomach was deficient in 26 out of 29 cases examined.[2]

Absorptive Power of Stomach.

The absorptive power of stomach was found deficient (over 15 minutes) in 48 cases or 80 per cent.; normal in 9 cases and not determined in 3 cases.

Digestive Power of Gastric Juice for Albumin (Meats).

Of the series of 61 cases the digestive power of gastric juice for meats was good in every case in which the HCl was in excess or even deficient (except one case), and always totaly absent when the HCl was totally absent. The digestive power for albumin was not determined in 2 cases.

---

* Read by invitation before the Central Texas Medical Association, Corsicana, Texas, July 11, 1906.

1. American Medicine, 1904, June 4.

2. In my opinion our rules employed to determine the motor power of stomach are defective.

Digestive Power of Gastric Juice for Starch (Breads).

The number of cases of hyperchlorhydria (free HCl above .073 per cent.) in which the digestion of starch (breads) was good, was 12 out of the 35 cases or 34 per cent. and deficient in 23 cases or 66 per cent.

Of the 9 cases in which the free HCl was totally absent the digestion of starch was always good.

Tests for Milk Curdling Ferment (Rennin).

The milk curdling ferment was active in 46 cases or 88 per cent; inactive in 6 cases, and not determined in 9 cases.

Presence of Bile.

Out of the 61 cases bile was tested for in 58 cases, and was found only two times.

Size and Position of Stomach.

The number of cases in which the stomach was found dilated (that is in having been inflated the fundus was found to project below the navel) in a series of 53 cases examined was 30 or 56 per cent., and normal in 23 cases or 43 per cent.

Hyperchlorhydria (free HCl above .073 per cent.) with dilatation of stomach was found in 16 out of 53 cases or 30 per cent.

The stomach was normal in size and HCl increased (above .073 per cent.) in 16 cases out of 53 or 30 per cent.

The stomach was normal in size with diminished HCl (HCl below .040 per cent.) in 3 cases out of 53 examined.

Out of the 9 cases in which the free HCl was totally absent the stomach was normal in size in 5 cases; dilated in 3 cases, and not determined in 1 case.

The free HCl was normal and stomach dilated in 5 cases out of 53.

The size and position of stomach was not determined in 8 cases.

Sex of Patients.

Of this series of 61 cases 46 patients were males and 15 were females.

Age of Patients.

Between 18 and 21 years there were 5 cases or 9 per cent; between 22 and 35 years there were 17 cases or 30 per cent.; between 36 and 50 years there were 27 cases or 49 per cent. The number of patients over 50 years of age was 6 or 10 per cent. The age was not determined in 6 cases.

Season of the Year.

Of this series of 61 cases 23 or 38 per cent. occurred during the fall months; 16 or 26 per cent occurred during the spring months; 11 or 18 per cent. occurred during the summer months, and 10 or 18 per cent. occurred during the winter months. In one case the season of year was not noted.

THE QUESTION OF ADMINISTRATION OF HYDROCHLORIC ACID IN GASTRIC DISORDERS.

While I wish to admit that at present we have not learned everything that is to be known regarding all the methods, nor all the fine points in determining the true condition present in cases of indigestion, I have no hesitancy in stating that these methods employed are far in advance of guesswork methods; and further, that in the absence of a complete gastric analysis the treatment of such cases will too often end in complete failure on the part of the physician and consequent despondency on the part of the patient.

This statement becomes obvious when one considers the question whether or not one should administer hydrochloric acid, one of the most commonly used drugs in the treatment of gastric conditions. And hydrochloric acid secreted by the stomach (equal to several drams daily) is only one of the many other factors which should be considered in order to treat indigestion (dyspepsia) correctly.

For instance, in my series of 61 cases I found the following conditions present with reference to hydrochloric acid: This acid was normal in 16.66 per cent., or one-sixth of the entire series of 61 cases, consequently the amount of HCl as the evil factor was not present, but the real cause which did harm lay further back than the abnormal secretion of this acid.

In 57 per cent. of the entire series I found that there was an excess (above .073 per cent. of hydrochloric acid, and in such cases, of course, the administration of this drug could only have added additional insult to the existing injury. The HCl was below normal (.040 per cent.) in 11 per cent. of the cases, while in 14 per cent. of the series of cases the HCl was totally absent. In those patients (at least those I have treated), who, in the absence of malignant disease, were found suffering from an entire absence of HCl, the administration of this acid has had no effect in restoring the HCl to the normal. Here is a case in point:

CASE 1.—*History.*—Miss R., aged 26, large and plethoric, stated that her father at one time had for a period of about five months suffered from insanity during which period he was violent. Her mother had been subject to rheumatism. The patient had seven brothers, all of whom were healthy. She had two sisters, one of whom suffered from indigestion. The patient had typhoid fever nine years previously, and rheumatism four years ago.

She began to suffer with eructation of food and pain in the stomach 10 years ago. The pain in stomach would come on immediately after eating, during which period it would feel as though it was distended with gas. At the onset of her condition she would vomit occasionally after eating and after the stomach was emptied of food she would feel relieved. She had never vomited blood. For the past three years she had suffered from sick headache, the pain affecting the forehead and top of head. This headache frequently lasted all night or all day. She frequently suffered from dizziness but never fainted. She had fits or convulsions nine months previously. During these convulsions the tongue would be bitten. The monthly periods were very irregular. During the past two or three months the bowels moved nine or ten times daily. Notwithstanding these symptoms she had gained about six pounds in weight during the past six months.

Gastric Analysis.—The complete gastric analysis was made on March 31, 1904, and the HCl was totally absent. She was put upon HCl in doses of six drops (of the chemically pure HCl with water and syrup) together with pepsin and tincture of nux vomica, this prescription being given immediately after eating and again repeated in doses of half the quantity two hours after meals. At the end of 13 days another gastric analysis was made, but the free HCl was totally absent one hour after a test meal.

Treatment.—Intragastric faradization with negative pole within stomach with the coil tapped at 3,000 feet (alternately one and two cells), rapid interrupter, continued for about seven minutes, every two or three days. Hot and cold douches within the stomach were also used, but at the end of 20 days from the commencement of the treatment, though the diarrhea had ceased, the free HCl was totally absent. Notwithstanding the entire absence of HCl the various symptoms complained of by the patient greatly improved and she passed out of my hands.

Out of the numerous cases I have treated in which the free HCl was totally absent, I can not recall a single instance in which the administration of HCl in any way affected the percentage of free HCl one hour after a test meal. As to whether one should or should not use this drug in any given case of stomach disorder, my opinion is that when one is in doubt some other drug than HCl should be given.

CERTAIN DISORDERS WHICH PRODUCE GASTRIC SYMPTOMS.

In this series of 61 cases of indigestion I met with the following conditions; Nurse's sore mouth, 1 case; gastric ulcer, 1 case; gastric cancer, 1 case; aortic stenosis, 1 case; mitral regurgitation, 1 case; gallstone, 2 cases; nephritis, 11 cases; anadenia or a destruction of the secretory parenchyma or glands of stomach, 2 cases; and gastrosia fungosa (or mold of a grass greenish-appearance), 4 cases.

This condition of gastrosia fungosa has been described by Knapp[3] and others as one in which the gastric contents have a grass green appearance resembling bile; or a dark red color resembling blood. In still other instances the color may be yellowish. In my 4 cases the color in each instance was grass green, resembling bile. In one instance this condition of gastrosia fungosa lasted for upward of two years before the patient came to me for treatment. It required six weeks of constant treatment by intragastric douches, composed of a weak solution of nitrate of silver and other remedies, to get rid of this mold. In one of these cases of gastrosia fungosa the free HCl was diminished (.01 per cent.); total acids, 40 per cent.; while in the others the free HCl was in excess. One of them had 0.13 per cent. of free HCl and a total acidity of 60 per cent.; one had 0.11 per cent. of free HCl and a total acidity of 52 per cent. Einhorn associates this condition of gastrosia fungosa with hyperchlorhydria, but one of my cases was certainly an exception to this rule.

To determine the presence of succinic and proprionic acids in these cases Knapp depends on certain color reactions obtained by the use of a weak, watery solution of ferric chlorid, but I have been unable to confirm these results as reported by Knapp.[3]

ANADENIA.

In anadenia there is an increase of the connective tissue accompanied by round cell infiltration, and a consequent choking up of the glands of the stomach, ending in loss of secretion of free HCl and other products which should be formed in the stomach. Such cases end in both gastric and consequent intestinal indigestion, producing in many cases a severe form of chronic diarrhea with liquid stools. In such instances the bowels often act as much as eight to twenty times a day. One of my cases of anadenia might be recorded here:

CASE 2.—*History.*—The patient, a man, aged 52, who 28 years previously had received a gunshot wound in spine which produced permanent motor paralysis of the lower extremities. He had never suffered from any other serious illness. He stated that his present condition began about a year previously, at which time he began to suffer from indigestion. Diarrhea later occurred, the stools being light yellow in color and numbering 15 to 20 a day. He would occasionally pass undigested food from bowels. He had never passed any blood from bowels and there was no evidence of hemorrhoids. The heart, lungs, liver, spleen and urine were normal.

Gastric Analysis.—A gastric analysis was made on May 21, 1902. The free HCl was totally absent; total acids 12 per cent.; absorptive power deficient. There was no trace of digestion of albumin even though HCl was artificially added. The digestion of starch was good, but rennet ferment was deficient. A considerable degree of gastric dilatation was present in this case.

Treatment.—Under the influence of intragastric faradizations, and hot and cold douches by means of the stomach tube and other measures, a doubtful trace of free HCl transiently returned 13 days after the first examination was made.

3. American Medicine, 1903, January 10.

GASTRIC CANCER.

This patient was a resident of a neighboring city who had been referred to me for treatment.

CASE 3.—*History.*—Patient, a man some 40 or 50 years of age, gave no history of tumors of any kind in the case of father, mother, brother and three sisters. He had never been seriously ill. The onset of his trouble began in August, 1903, at which time he complained of colicky pains in region of stomach lasting an hour or two. The pains would come on without reference to the time food was taken. Occasionally vomiting would occur, after which he would feel relieved. The vomitus would occasionally be whitish in color and at other times greenish. He had never vomited any blood up to the time the gastric examination was made. Later he had constant pain over region of stomach especially marked over fundus and worse on pressure. No tumor could be detected over this region even after inflation had been done. The heart, lungs, liver, spleen and gall bladder were normal.

Gastric Examination.—A gastric examination was made July 6, 1905, at which time I found that the stomach contents were lumpy; after filtration had a specific gravity of 1032; free HCl was totally absent; total acids 16 per cent.; no trace of digestion of albumin; deficient digestion of starch; absorptive power greatly deficient (62 minutes); rennet ferment active. The lower border of stomach extended about half an inch below navel. The stomach was not nodulated and no dulness on percussion could be determined. Though the free HCl was totally absent I could not bring myself to the belief that cancer was present.

Six months later the patient had become greatly emaciated and had lost 75 pounds in weight. He now suffered constantly with pains in stomach and had begun to vomit blood. Eight months after the first examination had been made a hard mass could be outlined in the pyloric end of stomach and to outward appearances seemed to involve a large part of this organ.

Operation.—He grew steadily worse and a surgeon performed a gastro-enterostomy, a Murphy button being used. At the operation it was found that the cancer had involved a large portion, nearly half of the stomach, and no attempt had been made to remove it. Death occurred four days after the operation, the immediate cause of death being due to exhaustion. There had been do fever following the operation and firm adhesions had formed around the button which was still in position.

In this instance the cancerous growth had evidently been very rapid, since at the examination made a few months before, it could not be detected by careful examination.

TRANSIENT ANACHLORHYDRIA.

Another class of cases is that in which the free HCl will be found totally absent (temporarily), only to return again under proper treatment. Such condition is evidently due to some form of obscure neurosis not yet determined.

These cases will often be found to be puzzling to the physician, and for many days, or perhaps weeks, one will be undecided as to whether gastric cancer is present.

In my 61 consecutive cases of indigestion treated in private practice the free HCl was found to be totally absent nine times, or 14 per cent. of the entire series. I have been able to make a diagnosis of gastric cancer in but one instance of this series, and I wish to give warning that one should not jump to the conclusion that cancer of the stomach is present, merely because the free hydrochloric acid is totally absent. The following case will illustrate this point:

CASE 4.—*History.*—The patient, a robust man, aged 37, 14 years previously had suffered from paralysis which affected the left arm and leg. After the paralysis began he had suffered from indigestion. He had three brothers living, one of whom suffered from indigestion. Of the five sisters, all

were healthy. The patient had suffered from two attacks of pneumonia. He had an attack of measles five years previously, and four months ago had an attack of bronchitis. Two weeks before he came to me for treatment he began to suffer from a sensation of smothering.

A few days after this smothering sensation disappeared he began to suffer from a new sensation. He informed me that at one time he awakened out of sleep at 4 a. m. by a feeling of uneasiness or a fear of impending death, and stated that there was excessive rapidity of the action of the heart. He got up out of bed and walked around for awhile, but later came back and lay down again at which time he had a "sinking" feeling or a feeling as though he was "sinking into the ground." There was no pain over chest nor down the left arm. The feet and hands were cold and there was a partial loss of sensation which lasted two hours.

Other nervous spells followed at irregular intervals, and he carried with him at all times some medicine containing digitalis as a heart stimulant. Since the onset of the first nervous spell he had suffered from pain in region of stomach. The pain was more or less burning in character, and was located in region of xiphoid cartilage. This pain always grew worse about half an hour after eating, and came on without reference to the character of food eaten. He was under a constant dread that "something was going to happen" and always brought with him a friend to my office. He had not vomited for a year and had never vomited blood. During the past four months he had lost 10 pounds in weight. The heart, lungs, liver, spleen and urine were all normal. No tumor could be made out by palpation nor by percussion over the inflated stomach.

Gastric Examination.—A gastric examination was made December 15, 1903, and the free HCl was totally absent; lactic acid was not present by the Uffelman test; the total acidity was 40 per cent.; digestion of albumin was totally absent at the end of three days; starch digestion was good; there were no sarcinæ; stomach was normal in size and position.

Treatment.—Without the aid of any drugs whatever I succeeded in restoring the free HCl to normal (.058 per cent.) while the total acidity had increased from 40 to 48 per cent. during the same period. In this instance the only measures employed consisted in placing the patient on a restricted carbohydrate diet and the flushing of stomach with alternate hot and cold douches each day. In the following year (June 2, 1904) the free HCl was .0438 per cent. and total acids 28 per cent.

In another case in which the free HCl was totally absent it required three weeks' treatment to restore the free HCl to the normal amount, while in another case all efforts failed to have any influence in restoring a trace of free HCl.

NEPHRITIS ASSOCIATED WITH GASTRIC DISTURBANCES.

I have been much impressed with the frequency with which gastric diseases have been associated with nephritis and one would do well to keep in mind gastric manifestations associated with the early symptoms of this disease. Of my series of 61 cases there were 11, or 18 per cent., in which the patients were suffering with nephritis, or at least whose urine contained albumin and tube casts. All of these patients have almost invariably improved under treatment for gastric disturbances. In some of these the free HCl was in excess, while in one case it was at first totally absent, but under treatment returned to normal.

REFLEX DISTURBANCES WITH GASTRIC SYMPTOMS.

Lastly, I have found a considerable number of patients who have come to me for treatment who believed that they were suffering from stomach trouble, or what was in ancient times spoken of as "dyspepsia," but in a large series of gastric analyses of such cases these analyses disclosed the fact that the stomach conditions were practically normal, while the real seat of the trouble was found to be far removed from the stomach. The following case will illustrate this point:

CASE 5.—*History.*—Mr. T., aged 23, family history negative, had never suffered with any serious disease. He began to suffer with chills and fever 7 years ago, but has been well for 5 years. He has used some tobacco and has drunk a moderate amount of liquor. Nine months previously he began to suffer with a sense of suffocation at night just before falling asleep. The attacks lasted an hour and a half. This sense of suffocation would be accompanied by a pain (sometimes dull, at other times sharp) in region of the heart, and radiating backward between the shoulder blades or spinal column. Every night he suffered from this pain and suffocation. He occasionally suffered from dizziness, or as though he "would fall to the ground."

After eating he had a dull aching pain in the region of the stomach which lasted an hour or two. This aching pain came on without reference to any kind of food. He never vomited but sometimes suffered from eructation of food, together with a good deal of gas.

Examination.—The heart, lungs, liver and urine were normal. The free HCl was .058 per cent.; total acidity, 32 per cent.; digestion of both starch and albumin good. Further examination disclosed hyperopia. Since he had glasses fitted he has never returned for further treatment.[4]

Clinical Notes

CLOSURE OF THE ABDOMINAL INCISION.

CHARLES G. CHILD, Jr., M.D.
Adjunct Professor of Gynecology at the New York Polyclinic; Assistant Gynecologist to the City Hospital; Assistant Surgeon to the Woman's Hospital.
NEW YORK CITY.

In closing the incision through the abdominal wall after operation three structures need accurate apposition in order to restore, as nearly as possible, the normal anatomic relations. These are the peritoneum, fascia and skin. The muscles, provided they have been subjected to no further traumatism than the necessary displacement or separation of their fibers, require no retaining sutures.

In holding the tissues together until union has taken place, it is desirable to use as few sutures as possible, for every one introduced into the wound is a foreign body, increasing the chance of infection. The sutures should be so introduced as to accomplish their purpose without strangulation of the tissues which they unite, for where the sutures are tied in the wound the nutrition of the tissues they include is interfered with, and atrophy, if not actual necrosis, results. This is particularly true of the fascia, more poorly nourished, as it is, than either the peritoneum or the skin. Moreover, the tying of knots in the wound greatly increases the amount of foreign material introduced that later must become absorbed or encysted.

A careful consideration of the above facts and theories has led me to adopt during the past year the following method of closing the abdominal wound in the majority of my celiotomies, with most excellent results, especially in the transverse incision, where there exists a

4. Since this paper was written I have read a paper by Dr. J. Dutton Steele in THE JOURNAL A. M. A., Aug. 18, 1906, entitled "Relation of Excessive Gastric Acidity to Gastric Symptoms." Steele quotes from authorities who maintain that gastric symptoms may be partially due to an abnormally sensitive mucous membrane of the stomach, even though the acids may be normal. Certain facts occurring in my series of cases would seem to lend support to this view.

greater tendency to gapping between the fascial edges than in the longitudinal incision.

TECHNIC.

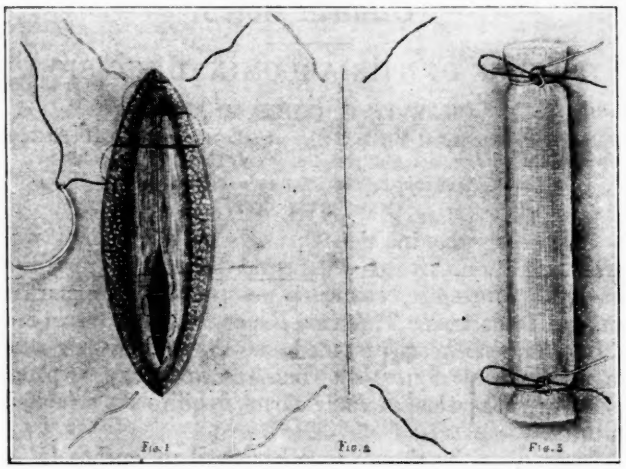
The peritoneum is brought together by a continuous suture of fine silk. The fascia is united by a running quilted stitch of medium sized silkworm gut, drawing the raw edges together without undue tension, and instead of being tied the ends are brought out through the skin and left long near the angles of the wound. (Fig. 1.)

The incision in the skin is closed by a continuous subcuticular stitch of silkworm gut, and the ends are also brought out long through the skin near the angles of the wound, but on the opposite sides from the fascial stitch. (Fig. 2.)

A firm roll of gauze, one inch thick and slightly longer than the wound, is now laid over it, and over this, at each end, the skin and fascial stitches are tied together in a single bow knot, just tight enough to take up any slipping that may have occurred in the fascial stitch since its introduction (Fig. 3.) At the first dressing on the second day the gauze between these knots is cut out so as to allow subsequent daily inspection of the wound.

At the end of the first week the knots are untied, releasing the remaining ends of the gauze roller and the skin stitch is cut off at one end and drawn out. One week later the fascial stitch is removed in a similar manner, thus leaving no suture material behind in the wound between the peritoneum and skin.

In case there is failure on the part of the wound to heal



Closure of the abdominal incision by method suggested by Dr. Child.

by primary union the skin stitch should be withdrawn and the fascial incision inspected. If this shows infection or if the infection is under the fascia, its edges can be readily separated by loosening the suture without removing it, and proper drainage secured. Later, when the infection has subsided and union begun the edges of the fascia can again be drawn together and good approximation obtained. Thus, the introduction of secondary sutures to close the separation in the fascia so often observed following suppurating wounds, and such a frequent cause of postoperative hernia, is avoided, saving much annoyance to both patient and surgeon.

114 East Seventy-first Street.

Carbon Dioxid in the Air of Factories.—W. M. Marriott (*Charities and the Commons*, Nov. 10, 1906) has investigated the condition of the air in eight factories in New York City. The total carbon dioxid varied from 7 to 16 parts in 10,000, being below 9 parts in 10,000 in all but one case. The limit fixed for schools in Massachusetts is 8 parts in 10,000, so that it appears that there is not much to complain of in regard to the condition of the air in the factories, but the fact that it was greatly polluted in one shows the need of supervision. The size of the room is no guide to the purity of the air, which depends rather on the efficiency of the ventilation.

LITHOPEDION CARRIED TWENTY-SIX YEARS OR MORE.

H. W. MOREHOUSE, M.D., AND E. H. GRISWOLD, M.D.
DANVILLE, ILL. PERU, IND.

History.—Mrs. B., aged 62 years, commenced to menstruate at the age of fourteen years. Menstruation was always regular and painless. The patient was married at the age of twenty. Her first child was born March 13, 1866; the second was born Sept. 16, 1867; the third, Oct. 9, 1869; the fourth, Aug. 16, 1871. She missed a menstrual period in July, 1880. In August she had a sharp attack of abdominal pain requiring rest in bed and morphin; three days later she had another attack still more severe, necessitating confinement to bed for almost a month. In September there occurred a very severe attack of pain accompanied by symptoms of collapse. She was confined to her bed for three or four weeks thereafter, and was not well enough to return to her home, a short distance in the country, until November. In December a colored uterine discharge appeared, the first since the preceding June. At this

Lithopedion: a, nasal process; b, left orbit; c, zygoma; d, submaxillary; e, auditory canal.

time there was a discharge of a fleshy membrane. From this time menstruation was regular and painless until 1886 when she had a severe attack of peritonitis confining her to her bed for about three months, after which menstruation was again established and remained normal until 1894 when it ceased permanently. During all this time there was abdominal soreness and distress occurring at irregular intervals. It was finally discovered during one of these attacks in the early part of 1906 that there was a movable abdominal tumor to the right of the median line low down in the pelvis.

Operation.—Abdominal section, made June 5, 1906, disclosed the abdominal tumor to be a lithopedion surrounded by and attached to omentum and intestine. There were no attachments to uterus, ovaries or tubes. Recovery was uneventful.

The specimen is complete in every respect, even to the preservation of the bones of the hands. It is a perfect skeleton of a fetus of five or six months, flexed on itself as *in utero*, as is shown in the accompanying illustration. This is a perfect picture of the specimen, as it was lifted from the abdominal cavity without any covering or vestment whatever except occasional small bodies of adipose tissue.

The omentum and the ileum were adherent to lithopedion by a very small band just beneath its submaxil-

lary. The calvarium, which is somewhat collapsed, is filled with a caseous mass. The whole is covered by a closely adherent thin fibrous tissue. The specimen is now in the museum of Rush Medical College.

TWO CASES OF ECTOPIC GESTATION.

E. E. GELDER, M.D.
PEORIA, ILL.

As tubal pregnancy must often times be diagnosed from the history rather than by physical findings, a complete history of each case should be reported. Each specimen removed at operation or autopsy should be studied to ascertain, if possible, the cause of failure of the impregnated ovum to descend the tube and enter the uterus. In pursuance of these ideas I make this report.

CASE 1.—In July 1906, I saw this woman at her home, in consultation with her physician, Dr. W. H. Willis of this city, and obtained the following history:

History.—Mrs. —, aged 30, had been married nine years but had not been pregnant previously. Her menstrual periods had always been regular, not painful, and the flow normal in quantity and duration. She never had intermenstrual bleeding or leucorrhea, and never had symptoms referable to inflammatory or infectious disease or any of the pelvic viscera. In February, 1906, she consulted Dr. Willis for relief from sterility. Under anesthesia he dilated the cervix; nothing abnormal was removed by the curette. She menstruated in May but missed in June. Early in July, two weeks after her period was due, she began to flow a little; a week later she developed pain in the uterus and apparently had an early miscarriage but did not save what passed. After this she had no more uterine pain but pain and tenderness in the left side of the pelvis. About July 14, or one week after the supposed miscarriage, she was taken with sudden severe pain in the left side with some collapse; although the severity of the pain lessened, it never left her entirely.

Examination.—On July 27, under anesthesia, we found the uterus approximating the normal position with the exception of the cervix which was slightly displaced to the right; the cavity of the uterus was empty and of normal length. The left broad ligament was filled with a semi-solid mass which also extended into the posterior cul-de-sac.

Diagnosis.—Ectopic gestation with rupture of the tube within the broad ligament.

Operation.—The following day, July 28, I assisted Dr. Willis in operating on the patient. Incision proved our diagnosis correct; a blood clot entirely filled the left broad ligament and had dissected across beneath its posterior layer to beyond the median line. The clots together with the left tube and ovary were removed; the broad ligament was washed out, and the two layers stitched together. The right tube and ovary were normal. The wound was closed without drainage and the patient made a rapid and uneventful recovery, leaving the hospital August 13, sixteen days after operation. She is now enjoying perfect health. As the specimen from this case was not preserved I can not give a report of it.

CASE 2.—Mrs. —, aged 20, had been married three years and had had one labor, no miscarriages.

History.—Menstruation began at 16, regular, not painful, quantity and duration normal. In April, 1904, her periods stopped and Jan. 30, 1905, I delivered her of a healthy baby. Some months later she resumed menstruating and her periods were regular and normal, the last one beginning July 1, 1906. She missed August 1, but began to flow on August 15. She did not consult me until September 15, having flowed off and on for a month. Vaginal examination revealed nothing abnormal so I prescribed gallic acid, ergotin and hydrastin. This apparently stopped the flow for a few days but it returned and on September 23. I curetted her uterus. I removed a small quantity of what I supposed was hypertrophied endometrium so made no microscopic examination of it. Bimanual palpation showed the fundus to be high in the pelvis but freely movable, the examination was otherwise negative. A few days later she developed tenderness in the left tubal region and a slight fever which caused me to fear an infection following the curettement as it was done at her home. Hot douches seemed to relieve her and the fever left in a few days.

On October 8, while walking on the street she was taken with severe pain in the left pelvis and fainted; on regaining consciousness she vomited. I found her in collapse and called the ambulance. Reaching home she rapidly recovered from the shock but her left side was rigid and exquisitely tender, so I deferred further examination until morning. The next day I found her with normal temperature and vaginal examination revealed tenderness on the left side and rigidity of the left rectus muscle. I was somewhat chagrined as I had made a diagnosis of ruptured tubal pregnancy and expected to find a mass on the left side; but I could palpate neither tube.

All symptoms gradually subsided except pain referred along the descending colon up to the margin of the ribs. I was very anxious to avoid operative procedure on this patient and decided on the expectant line of treatment.

On October 29, I returned from my vacation and found her

Specimen from Case 2, slightly enlarged. Anterior layer of broad ligament dissected back to show ruptured tube (T). DA. The discolored area along line of rupture. DA flap from the tube is carried to the right to show the ruptured gestation sac (GS), with its amniotic lining. Note the small tortuous uterine end of the tube.

with slight fever, pulse 84, pain along the descending colon becoming worse on urination and defecation, no dulness on percussion, but an increase in resistance on deep palpation just inside the left anterior superior iliac spine. On vaginal examination I detected a mass high in the left pelvis, and exaggerated pulsation in all vessels to the left of the uterus.

Diagnosis.—Ectopic gestation, ruptured high in the pelvis.

Operation.—On Nov. 2, 1906, I opened the abdomen and found free blood in the peritoneal cavity, and a left tubal pregnancy. This had ruptured from the free surface of the tube and become walled off in a pocket formed by the rectum, sigmoid, posterior layer of the broad ligament, and left wall of the pelvis. I removed the clot and left tube. As they were normal I left both ovaries and the right tube. After a thorough cleansing of the pelvis I closed without drainage. The patient enjoyed an afebrile convalescence and left the hospital in good condition eighteen days after operation.

Examination of Specimen.—The uterine end of the tube was small, tortuous, and could not be probed. The covering of the tube was thinned out and torn along an irregular line on

its convex surface. The latter was congested and markedly discolored along the line of rupture; within was the ruptured gestation sac. No fetus was found. The cause of the ectopic gestation was either a congenital or acquired narrowing of the uterine end of the tube.

SUMMARY.

1. This was the first conception in Case 1.
2. Only 18 months had elapsed since the second patient was delivered of her first child.
3. Neither patient had ever presented symptoms of inflammatory or infectious disease of any of the pelvic viscera.
4. Neither had subjective symptoms of pregnancy.
5. In both cases the menstrual period was delayed exactly two weeks.
6. In Case 2 the rupture occurred into the peritoneal cavity and, though no hemostasis was applied, the hemorrhage was not severe.
7. The appearance of physical signs in Case 2 was very late, despite a typical history.

PAINFUL HEEL,

WITH A DEMONSTRATION OF A THEORY AS TO A MECHANICAL CAUSE.*

JOHN JOSEPH NUTT, B.L., M.D.
Clinical Instructor in Orthopedic Surgery, Cornell University Medical College; Assistant Surgeon to the New York State Hospital for Crippled and Deformed Children.
NEW YORK CITY.

The name which heads this article is a rather unfortunate one, as it is not at all descriptive or distinctive. All pain referred to the plantar surface of the heel is not due to this condition.

Bradford and Lovett say: "This is a condition in which there is a tender and painful area under the middle of the heel." Whitman describes it with calcaneobursitis. Under painful heel he includes all pain referred to the botom of the heel. When the pain is clearly localized he says: "The cause of the symptoms in such cases may be an inflamed bursa lying between the periosteum and the fatty tissue of the heel." Walsham and Hughes do not mention the subject in "Deformities of the Human Foot." Nor does Keetley refer to it in his "Orthopedic Surgery." The French surgeons, however, have recognized this condition, and Duplay has recommended an operation which is endorsed by Whitman. Young's definition, which is clear and exact, is: "Severe pain, accompanied by tenderness, in the center of the heel about the posterior attachment of the plantar fascia."

Painful heel is probably not a rare condition. As the pain is alleviated by rest, the milder cases are usually self-treated and are not seen by the surgeon until complications have arisen which cloak the original disease. Policemen, however, are not able to favor the foot. They can not give it rest even when extremely painful and must seek relief of the physician. Hence its synonym: policeman's heel. The only subjective symptom is the pain. This is constantly in one place. It is excited by walking much more than by standing and is temporarily relieved by absolute rest. If closely questioned the patient may state that the pain is worse just before he brings the foot forward in walking.

* Read before Bellevue Hospital Alumni Association, June 6, 1906.

EXAMINATION.

Inspection may show nothing abnormal; both feet may be well formed. There will be no external evidence of inflammation. Deep pressure on the spot will usually produce pain. Manipulation will disclose a normal mediotarsal joint and the head of the astragalus and the scaphoid in their normal position. The only abnormality in the uncomplicated cases will be found at the ankle joint. Here the range of flexion will be found to be limited. In other words, non-deforming club-foot exists. If we knew this to be always the case, we could simply class painful heel among the complications of non-deforming club-foot, but doubtless sometimes painful heel, as defined, originates from other causes. Exostosis, bursitis or neuroma may be the primary lesion, though I believe they are more often secondary to the traumatism to the plantar fascia.

A MECHANICAL EXPLANATION.

A mechanical explanation of a cause of this condition I wish to demonstrate. As pointed out by Dr. Shaffer when he first described non-deforming club-foot, that condition is usually the cause of flat-foot, and may also cause bunions, corns, calluses, ingrowing toe nails and Morton's disease. He did not mention, however, that painful heel may be a result. As far as I know, painful heel has never been given a mechanical explanation based on a shortened gastrocnemius.

The shortened gastrocnemius is the *sine qua non* in Shaffer's foot. I use the term "Shaffer's foot" intentionally. Non-deforming club-foot, the name given it by Dr. Shaffer, is more or less confusing to the profession and is repugnant to the laity, especially to the woman who is proud of a well-shaped foot and perhaps a high aristocratic arch. This limitation of dorsal flexion, due to the shortened gastrocnemius, necessitates, in walking, the shifting of the weight of the body to a point more anterior than normal. Consequently an added strain is brought to bear on the plantar fascia and all the plantar tissues.

Normally the superincumbent weight is dispersed through the astragalus in three directions, downward and backward through the calcaneum, downward, forward and outward through the calcaneum, cuboid and two outer metatarsals, and downward, forward and inward through the astragalus, scaphoid, the three cuneiform and the three inner metatarsals.

If the gastrocnemius is but slightly shortened, say dorsal flexion is limited with the foot at a right angle to the leg, then, as the leg is flexed on the foot in locomotion, the weight normally falling on the posterior tubercles of the os calcis is transferred to the other two directions, and the heel, instead of supporting weight, is raised from the ground and strains the plantar fascia. Motion being blocked at the ankle joint, the force is transmitted further along and seeks to obtain movement at the next joint which is the mediotarsal. This extraordinary strain on the plantar fascia weakens it, and, if it elongates, dorsal flexion will take place at the mediotarsal joint and flat-foot will result. When the gastrocnemius is greatly shortened, as when dorsal flexion of the foot is arrested at 105 degrees or more, with the leg, the weight, in flexing the leg on the foot in the act of walking, is thrown so far forward that the plantar tissues tend rather to become a continuation of the posttibial muscles and the length of the foot is shortened, the plantar fascia becomes contracted and, assisted by

both tibialis anticus and posticus, a condition of cavus presents.

I believe that painful heel usually is produced in those cases in which Shaffer's foot exists to a slight extent and the plantar fascia, instead of becoming weakened and lengthening throughout its extent, has given way at its attachment to the calcaneum.

In the history of these cases I have not been able to discover anything which pointed to a particular traumatism. It would seem to be the slight strain of each step rather than sudden evulsion or rupture. This theory readily accounts for periostitis, neuroma, ostitic growths and bursitis as complications and explains why they have been frequently cited as etiologic factors.

TREATMENT.

Treatment should be directed to the original cause and relieving the acute symptoms. Shaffer's foot can only be cured in one way, i. e., by elongation of the gastrocnemius. This is most satisfactorily accomplished by the use of Shaffer's traction shoe. The pain may be partially relieved by a steel arch so constructed as to remove the strain from the plantar fascia until the movements at the ankle are again normal. Operations for the relief of the symptoms by cutting down on an inflamed periosteum or bursa or the removal of an ostitic growth or a neuroma are seldom necessary. Cutting a depression in the sole of the shoe, prescribing rubber heels and such means having for their object the relief of pressure are misdirected. Immobilization in plaster of Paris, electricity and ointments are useless, while the traction shoe, the properly constructed steel arch and directions as to the proper method of walking are almost sure to afford relief and effect a cure.

CASE REPORT.

A recent case was so typical that I use it as an illustration.

History.—The patient was a policeman, with good general health and no constitutional diseases. For eighteen months he had had a sore heel. It came on gradually, but had been so severe as to make him limp slightly for nearly a year and a half. He had been treated for rheumatism, for flat-foot, for diseased bone, and for inflammation of the covering of the bone. He had had prescribed internal remedies and external lotions, steel arches (many patterns), rubber heels, and felt inner-soles, with a depression beneath the tender spot. He had had electricity, a variety of currents, and had the foot in a plaster-of-Paris cast for about three weeks. None of these measures had afforded him more than a fleeting relief, and he had been urged to have an operation.

Examination.—This showed a spot of acute tenderness over the inner part of the posterior attachment of the plantar fascia. The left gastrocnemius was normal, or nearly so, but the right, the one having the painful heel, limited flexion of the foot to 95 degrees with the leg. There was no deformity of the foot. No tumefaction of any kind could be found. A radiograph was negative.

After careful experimenting it was found that the greatest pain was experienced as the leg reached its greatest flexion on the foot in walking. In this position the strain on the plantar fascia is the severest.

Treatment.—Using the antero-posterior traction shoe daily for two weeks, and then every other day for two weeks more, elongated the gastrocnemius so as to permit of flexion to about 85 degrees. Insoles were ordered and altered a number of times before the correct shape was obtained. By gluing on to the plate pieces of leather, which could be shaved down and built up as desired, the model for the final plate was obtained. The result is the absolute freedom from pain on walking, the first time in a year and a half.

TRYPSIN TREATMENT OF A CASE OF MALIGNANT DISEASE,

INVOLVING THE LEFT TONSIL, BASE OF TONGUE AND EPIGLOTTIS.

JAMES T. CAMPBELL, M.D.

Professor of Otology, Rhinology and Laryngology in the Post-Graduate Medical School, Chicago.

CHICAGO.

Patient and History.—J. H., aged 56, hotel clerk, of good family history; has had gonorrhea, but denies having had syphilis. On Sept. 1, 1905, the patient weighed 168 pounds, and about this time complained of pain over the left side of the face, which later became more manifest along the left lower jaw, in the ear, and from the occiput to the vertex. As the pain was unrelieved he had five left lower teeth and two back upper teeth extracted. He was treated at various hospitals and clinics until May 9, 1906, when I first saw him at the Post-Graduate Hospital. At that time he could not protrude his tongue and swallowed with much difficulty the smallest amount of liquid, impulsively placing his hand as though to support the lower jaw. His speech was thick and indistinct, he had left facial paralysis and complained of constant pain radiating over the face from the angle of the left jaw.

Examination.—An indurated mass was found at the left side and base of the tongue, the size of a filbert; an indurated, enlarged, firmly-fixed left tonsil; a much thickened epiglottis and ulceration in the glosso-epiglottic sulcus of the left side. The submaxillary gland of the corresponding side was large, hard and adherent. At my request he was examined by Dr. T. Melville Hardie, Dr. George Morgenthau and Dr. Frederick Besley, all of whom pronounced the disease malignant and the case inoperable.

General Treatment.—We prescribed large and increasing doses of potassium iodid. Ten days later he had a violent hemorrhage from the mouth and was taken in an ambulance to the Cook County Hospital, where he remained more than five weeks. While there mercurial inunctions were administered daily for three weeks. He returned to us on July 2 and was under observation in the Post-Graduate Hospital for three weeks. There large doses of potassium iodid were given, and the leucodescent lamp applied as a placebo; yet his condition gradually grew worse. His weight was reduced to 115 pounds, and he was taking about 4 grains of morphin daily to allay the pain. As the patient was failing rapidly and nothing better could be suggested, we determined to try trypsin injections.

Trypsin Treatment.—Aug. 25, 1906, 5 minims of Fairchild Bros. & Foster's *injectio trypsini*, diluted with 10 minims of sterilized water, were injected under the skin over the enlarged gland, and August 28 10 minims were injected in the same region. On August 31 and September 4 15 minims were injected, and we noticed that the swollen submaxillary gland (which had enlarged to the size of a hen's egg during the course of one night, just prior to the beginning of trypsin injection), was very rapidly decreasing in size. He was swallowing more comfortably and feeling so much better that he celebrated his improvement by indulging in a ten-days spree. September 16 60 minims (one ampule) were injected, and since that time one ampule of *injectio trypsini* diluted with two volumes of distilled water has been injected under the skin of the buttocks each alternate day. On September 18 he weighed 123 pounds, and on September 20, 126 pounds, a gain of three pounds in two days, and he has taken but one-half grain of morphin in these two days. He drinks two quarts of milk daily in addition to a diet of eggs, oysters, beef, mutton, cereals, etc. At the present time his weight is 133½ pounds. He has little or no pain and is taking no opiate. His color is good, tongue fairly clean, and the infiltrations in the tongue, tonsil, epiglottis and submaxillary region have greatly decreased. He says that he feels well and believes himself cured. For a week past *injectio amylopsini* has been given every alternate day.

Unfortunately, our early diagnosis was clinical only. Recently I removed sections from the tonsil, and the laboratory diagnosis by Professor Zeit was pronounced "infective granulomata." As infective granulomata include tubercle, lupus, syphilis, glanders and farcy, leprosy and actinomycosis, without going into details, I think we may exclude all except actinomycosis, syphilis and tubercle.

There is reasonable proof that there is no possibility of the disease being actinomycosis in the fact that there has been no tendency toward breaking down of the tumors into abscesses. Also, that in careful microscopic examinations made by Professor Zeit no ray fungi were found. For lumpy-jawed cattle large doses of potassium iodid have been given with success, and similar treatment should prove beneficial when used for human beings who suffer with actinomycosis. In the case presented, however, very large doses of the iodid were given without success and he gradually became worse.

He denies ever having had a chancre, he never had secondary manifestations of syphilis, the infiltrations never broke down, they maintained their stony hardness under persistent antisyphilitic treatment.

Against tubercle, no tubercle bacilli nor giant cells were found in the microscopic section; he has not the characteristic pallor of mucous membrane found in tuberculosis. There is no pulmonary involvement.

My belief is that the growths are carcinomatous, that what improvement has been brought about is entirely due to trypsin, and that the granular cells found by Professor Zeit are degenerated cancer cells.

In conclusion, I wish to express my indebtedness to Dr. Hugh A. Cuthbertson, to whose painstaking efforts this patient's improvement is due.

34 Washington Street.

VENTRAL HERNIA DURING PREGNANCY.

ERNEST F. ROBINSON, M.D.
KANSAS CITY, MO.

The following case is reported as a demonstration of the efficiency of "vertical overlapping" operation for ventral hernia. No severer test could be demanded than the experience of this case.

Patient and History.—Mrs. H., aged 23, was seen in consultation with her attending physician, Dr. Trexler, June, 1905. She was a little over three months pregnant, and was suffering from a hernia. About one year before, she had given birth to a still-born child. This labor, her physician told me, was very severe and prolonged, and he feared the result should she undergo a similar experience with the hernia that existed.

Examination.—A rupture at the umbilicus about the size of an orange was found, the hernial ring admitting the tips of two fingers. The hernia apparently contained omentum and at times, on straining, a knuckle of gut could apparently be felt. The contents of the hernial sac could be only partially reduced.

Operation.—Under ether anesthesia a transverse elliptical incision was made around the hernial sac, down to the deep fascia. The sac was freed from its attachments at the ring. It was opened, and the contained omentum, which was greatly thickened and adherent, was dissected free, tied off with catgut, and dropped back into the abdominal cavity. All about the ring, the fat was dissected free and a small incision, one-half inch deep, was made on either side of the ring. Then from above downward, the tissues were brought together as flaps, making the upper slip over the lower as advised by the elder Mayo. This was accomplished by inserting two mattress sutures of hemp into the edge of the lower border of the ring and passing the thread underneath the upper border and bringing it out two inches above. These sutures held the flaps in position, but they were in addition, united by several buried catgut sutures. Thus, in place of the hernia, there existed a double layer of abdominal wall. The skin wound was closed without drainage.

Postoperative History.—Immediately following the operation, rather severe vomiting occurred, but the line of sutures held well and primary union resulted. A little less than five and one-half months later, the patient gave birth to a large, healthy child. It was a face presentation and labor was much protracted, but the line of union held firmly.

The only complaint the patient had to make was that she no longer had a navel, but was like her great ancestor, the original Adam.

A CASE OF SURGICAL EMPHYSEMA (?) OF UNUSUAL ORIGIN.

HENRY POWER, M.D.
SPOKANE, WASH.

While acting as surgeon to the Spokane division of the Great Northern Railway, I was, on July 24, in charge of a case giving the following history, part of which was furnished by officers of the wrecked train:

History.—The victim of the accident, a healthy man of about 30 years of age, was seated in the forward part of the smoking car when the engine, mail car and baggage car left the track and ran down an embankment into a deep lake. The car in which the patient sat was also about half submerged. He, though shaken up, retained control of himself and made his way through the window and remembers swimming in the lake. An employé who stood on the bank states that he offered the swimmer the end of a stick in order to draw him to the shore; before this could be done, however, one of the tanks of acetylene gas, which had broken from its fastenings, was seen to have taken fire and floating on the surface of the water, was discharging a large jet of flame from an orifice with great force. The tank, floating past, threw the flame full in the face of the swimmer rendering him unconscious for one or two hours. On examination severe burns were noted on the hands and face, and in the cavity of the mouth and pharynx and on stripping the patient marked emphysema was seen extending on both sides from the lower jaw to the lower end of the sternum, being most marked about the neck and upper chest. There was marked dyspnea and some pain was complained of about the neck and pharynx and to some extent about the right clavicle.

For some days the patient seemed in serious condition but there was little if any rise of temperature. Some expectoration of a bloody nature was noted and at times small black masses were mixed with the blood. The emphysema had extended slightly over the abdomen but was not so marked above, leading to the inference that the pressure was only in process of equalizing and that the total quantity of air had not increased since the accident.

During the subsequent stay of the patient in the hospital careful examination failed to show any fracture of ribs or clavicle and the case made a slow recovery without new symptoms of importance. Up to the middle of October there persisted a slight amount of gas in the upper abdominal wall.

None of the commonly accepted theories of the etiology of emphysema explains this case. Possibly the sudden pressure in the mouth and pharynx caused a rupture into the subcutaneous tissues, allowing gas to escape into them.

Attractive Food for the Invalid.—The physician will find it worth his while not only to investigate the articles of food to be prescribed but to be sure that they are daintily and attractively presented. The order in which they are to be given should be arranged so that the appetite may not tire.—*Medical Times.*

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 141.*)

TUSSOL.

MANDELATE OF ANTIPYRINE. PHENYLGLYCOLANTIPYRINE.

Tussol, $C_{11}H_{12}N_2O.C_6H_5.CHOH.COOH = C_{19}H_{20}O_4N_2$, is a salt of mandelic acid, $C_6H_5(CHOH.COOH)$, and antipyrine.

It is prepared by heating mandelic acid and antipyrine in molecular proportions on a steam bath, and crystallizing the product of the reaction, after cooling, from alcohol.

It is a white, crystalline powder, having a bitter taste and melting at 52° to 53° C. (125.6° to 127.4° F.). It is soluble in 15 parts of water, 3 to 4 parts of alcohol, or 25 to 26 parts of ether, producing solutions of acid reaction. When heated above the melting point, it gives off the odor of bitter almonds, and finally burns without leaving a residue. It is split into its constituents by milk and by alkalies.

Its aqueous solutions give the reactions for antipyrine; if warmed with potassium permanganate it develops the odor of benzaldehyde, but it is not affected by silver nitrate, barium nitrate, dilute sulphuric acid, or hydrogen sulphide.

It is incompatible with alkalies, milk and milk food.

Actions and Uses.—Tussol combines the antipyretic, analgesic and sedative action of antipyrine with the stimulant action of mandelic acid on glandular secretions.

It is recommended for use in the treatment of whooping cough. Some observers question whether it is more effective than a mixture of its components.

Dosage.—0.05, 0.1, 0.25, 0.4 or 0.5 Gm. (½, 2, 4, 6 or 8 grains), according to the age of the patient.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 569,415.

URETHANE.

A name commonly applied to Æthylis Carbamas, U. S. P.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

URIFORM.

COMPOUND ELIXIR OF HEXAMETHYLENETETRAMINE, SANTAL AND SAW PALMETTO.

Each 8 Cc. (2 fluidrams) is said to contain: Hexamethylenetetramine 0.5 Gm. (7½ grains), Saw Palmetto 0.3 Gm. (5 grains), Santal 0.16 Gm. (2½ grains), Damiana 0.16 Gm. (2½ grains), Coca, 0.16 Gm. (2½ grains), and Nux Vomica 0.016 Gm. (¼ grain) in a menstruum containing 20 per cent. of alcohol with sugar and aromatics.

Dosage.—For adults, 4 to 8 Cc. (1 to 2 fluidrams).

Prepared by Schieffelin & Co., New York. U. S. trademark No. 37,924.

URITONE.

A name applied to Hexamethylenamina, U. S. P.

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. trademark.

UROPHERIN-B.

THEOBROMINE AND LITHIUM BENZOATE. UROPHERIN BENZOATE.

Uropherin-B, $LiC_7H_7N_4O_2 + LiC_7H_5O_2$, is a double salt of theobromine-lithium and lithium benzoate.

It is a white powder containing 50 per cent. of theobromine. It is soluble in 5 parts of water; it decomposes on exposure to light and air.

A solution of uropherin B. will respond to the various tests for lithium, theobromine and benzoate.

Actions and Uses.—It is a diuretic, said to be particularly efficient in connection with digitalis.

It is recommended in dropsy, nephritis and diseases of the heart and of the genitourinary organs.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder or capsules, followed by water.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark.

UROPHERIN-S.

THEOBROMINE AND LITHIUM SALICYLATE. UROPHERIN SALICYLATE.

Uropherin-S., $LiC_7H_7N_4O_2 + LiC_7H_5O_3$, is a double salt of theobromine-lithium and lithium salicylate.

Actions and Uses.—The properties, actions, uses and dosage of this compound are practically the same as those of "theobromine-lithium benzoate" (see Uropherin-B).

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark.

UROTROPINE.

A name applied to Hexamethylenamina, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. trademark No. 27,257.

UROTROPINE—NEW.

A name applied to Hexamethylenamine Methylencitrate (which see).

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

VALYL.

VALERYLDIETHYLAMIDE. VALERIANIC ACID DIETHYLAMIDE.

Valyl, $C_4H_9.CO.N(C_2H_5)_2 = C_9H_{19}ON$, is a compound of valeric acid and diethylamine.

It is prepared by the direct interaction of its acid and basic components.

It is a bright, colorless, neutral liquid, having a peculiar pepper like odor, boiling at 210° C. (410° F.). It is soluble in 25 parts of water and easily soluble in alcohol or ether.

It should be neutral to moistened litmus paper and the boiling point should not vary materially above or below that indicated.

It should not be exposed to the air.

Actions and Uses.—Valyl acts as a sedative, antispasmodic and nervine, similar to valerian.

It is recommended in hysteria, traumatic neurosis, hemicrania, neuralgia, menstrual irregularities, insomnia due to nervousness, etc.

Dosage.—Owing to the liability of valyl to oxidize when exposed to the air, it is supplied only in the form of gelatin capsules, each containing 0.125 Gm. (2 grains), the dose being 2 or 3 capsules, administered during or immediately after meals, or otherwise with a little milk.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York). U. S. patent No. 897,730.

(*To be continued.*)

Coffee Drinking in Germany.—J. B. Heinrich (*Med. Klinik*, ii, No. 15) deplores the spread of coffee drinking in Germany as a peril to the national welfare. He points out that it acts as a direct irritant to the nervous system, and where it is too extensively used is almost comparable in a social point of view to alcohol in its bad effects. The increase of its use in Germany of late years has been marked. In 1896 there were 122 1/3 million kilograms imported and in 1902 172,500,000. That allows for each inhabitant, including small children, 3½ kilograms per annum. Women drink most coffee in all classes. He sees some prospects of salvation in the increasing use of malt coffee, which has in many places in Germany largely aided the strife against alcohol excess.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[*For other information see second page following reading matter.*]

SATURDAY, JANUARY 19, 1907.

MEDICAL ECONOMICS IN MEDICAL SCHOOLS.

We publish this week[1] an outline of the "Course in Medical Economics" recently sent to all medical colleges, in accordance with the instructions of the House of Delegates of the American Medical Association. The suggestion for such a course is the result of the revelations of the unfortunate professional conditions prevailing in nearly every section of the country, conditions that have become apparent during the re-organization movement, and which are believed, by those best informed on the subject, to be due to a lack of instruction of medical students along the lines now proposed.

The trend of all modern education is toward the practical, toward such training of the individual as will fit him for true success in his life work. Such an education is nowhere more needed than in the training of the physician. But this practical instruction must be on a broader plane than that of simply obtaining a knowledge of anatomy, physiology, chemistry, therapeutics, surgery and the various underlying and fundamental branches of what is understood as a general medical education. This is all practical, certainly, as well as necessary; in so far as it relates to the diagnosis and treatment of diseases it may be sufficient. But there is something more in the training of a medical man than the simple acquirement of scientific knowledge.

The successful physician occupies a place in the community of vastly greater importance than does any other individual, not even excepting the clergyman. The physician comes more directly in touch with the frailties, sorrows, aspirations and joys of humanity than does any other individual. His influence in the community, politically and socially, is, or, if he lived up to his opportunities, would be greater than that of any other. The physician who appreciates his obligations must not be satisfied with simply treating disease; he must so treat his patients that he may command their confidence and respect, and that he may have the confidence and respect of the community in which he lives. But, most important of all, he must so conduct himself that he will have the confidence and respect of his fellows in the profession. All these things spell "Success" with a capital S.

The medical colleges of to-day have a greater responsibility than used to be the case. There was a time, not so long ago, when the student entering a medical college carried with him a certificate from a preceptor. The rule then was, and to it there were few exceptions, that the prospective medical student should spend at least a year with a physician as an apprentice. Before beginning his medical college work he had learned, by actual experience and personal observation, what the real life work of a physician is. He had learned from his preceptor, by example, how to conduct himself, the relationship of the doctor to the patient and the patient to the doctor. By keeping his preceptor's books, collecting his bills, etc., he obtained an insight into the business side. Now it is different. Nine students out of every ten enter the medical college with the vaguest idea of the physician's life, its responsibilities or its possibilities, and, unfortunately, most of them leave it with ideas just as indefinite. They know how to diagnose and treat diseases, but about their other functions and obligations as members of the medical profession they know nothing. And it is to be regretted that many never learn.

There is a business side to the practice of medicine, and it is a most important side. As in other callings, there are honest and dishonest business methods, and, also as in other callings, the honest business methods win. Bad business methods have crept in and many well-meaning men have fallen into errors, bringing reproach on themselves and on their profession, because they were never instructed in correct methods. If the division of fees, contract and lodge practice, commissions from druggists, sly methods of advertising in newspapers in connection with operations and accidents are wrong in principle and hurtful both to the individuals who do such things and to the profession as a whole, why not give prospective physicians instruction in regard to these matters while they are being molded, so that they may at least start in the right direction? Instead of doing this, most of the medical colleges turn their graduates adrift at the end of the college course, without chart or compass, and then censure them and bemoan the perversity of human nature because they take the wrong direction. Most of them want to do right, and the majority finally get right, but only after many false moves and mistakes, against which they should have been warned.

The value of medical societies, especially to the young physician, is immeasurable in many ways. How many medical colleges convey a knowledge of this fact to their students? Are there a dozen in the whole country? To the shame of the colleges, no! Correct conduct as a physician in little things and big, toward his patients and toward his confrères, makes for happiness and success. Are there a dozen medical colleges in the country that appreciate this? No. "All that is necessary is that a man should be a gentleman" is the excuse, but this is not true. The medical code is broader than the social code.

1. See page 246.

"Doctors are not business men," is a remark that is getting to be wearisome, both because it is repeated so often and because it is true. That doctors are not business men is because they have not been taught that the practice of medicine is both a business and a profession. But they ought to be taught, and by those whom they pay to teach them.

Once in a while in this or in that college a talk is given to the members of the graduating class on the value of medical society membership, on medical ethics, on business methods, or on some subject relating to their conduct as men among men. When notice of such a talk is posted on the college bulletin board every member of the class arranges to be present. They are immediately interested. And every man is present, because every man is craving for that kind of instruction. Why not give more of it?

Better a little less knowledge of the "glass and the brass" and more of that which will make for a higher *morale*, more ethical practice and for true success.

DARK DAYS AND PHYSICAL AND MENTAL DEPRESSION.

During the past six or seven weeks the bright days have been exceedingly rare, even for this rather gloomy season of the year. According to the weather reports, there were less than five clear days throughout most of the northern part of the region east of the Mississippi during December. Since then weather conditions have not ameliorated and the first half of January has been quite as gloomy. Under these circumstances a definite increase in the amount of catarrhal disease of the respiratory tract is always noted, and it seems clear that the absence of sunlight encourages the propagation of various germs in the air, which prove the source of infective disorders when inhaled.

This is what might be expected from what we know of the wonderful bactericidal action of sunlight. It is evident, too, that resistive vitality is lower in the absence of sunlight and that the feeling of depression which comes over most people during a succession of gloomy days is a manifestation of lowered vital activities. These considerations furnish precious hints for disease prophylaxis and emphasize the necessity of persons who are already in weakened conditions taking special care of their health and assuming no risks from exposure, overexertion or other morbid factors during such periods. They also suggest the advisability of physicians being very firm not to allow weakened patients to leave the house under such conditions, even though they have been sufferers from only slight ailments.

There are even more important considerations, however, with regard to mental conditions at such times. During the last few weeks many more suicides than usual have been reported in the newspapers. The frequency with which suicide has been associated with homicide is especially noteworthy. The statistics of suicide for many years have shown that a much larger proportion of these unfortunate fatalities occur on dark gloomy days than during fine weather. If additional proof were needed of this fact, it would be found in the number of cases that have been reported recently. It is evident that there is here a definite hint for physicians who may have charge of patients whose mental affliction is likely to take the course toward suicide. Precautions should be multiplied, nurses and attendants should be warned, recourse should be had to material protections of various kinds, such as the removal of possible instruments of death, and the safeguarding of windows by bars; for, without such careful provision, human vigilance is sure to relax at some moment and the result may be an unfortunate fatal termination that might readily have been prevented if the possibility of its occurrence had been carefully foreseen. In a word, in times of long-continued gloomy weather, the attention of physicians and nurses must be especially awakened to the much greater possibility of these accidents, which inflict so much suffering on families; any medical means that helps even in slight degree to prevent them must be sincerely welcomed.

THE CAUSE OF SYPHILIS.

Not quite two years have elapsed since Schaudinn and Hoffmann described in the lesions of syphilis a very delicate spiral organism, slightly refractive and difficult to stain, which they called *Spirochæte pallida*. In this comparatively short time there have appeared, according to a recent review,[1] over 400 papers bearing on this subject, a number which indicates the lively interest which has been taken in the organism. As would be expected, the discovery was at first received with a considerable degree of skepticism, and inasmuch as each year, for a period of twenty-five years preceding 1905, had seen a new syphilis parasite discovered, this was not to be wondered at. Schaudinn and Hoffmann were themselves very conservative in the statements in their earlier papers; they did not claim that the *Spirochæte pallida* was the cause of syphilis, but merely called attention to its frequent association with luetic lesions.

It may not be amiss at this time to point out just what has been the result of the immense amount of work expended in studying this organism. In their earlier papers the discoverers of the organism did not find it in every case of syphilis, but in the last 70 cases of primary and secondary lues which they have examined they have never failed to discover it. A few other observers have been equally successful, but, as a rule, there have been from 10 to 40 per cent. of failures in each series of cases examined. It is only fair to say, however, that the organism is exceedingly difficult to see, and many observers make the statement that as their experience increases they find the parasite more and

1. Huebner: Dermat. Ztschr., September, 1906.

more frequently. In tertiary lesions the organism at first was found so infrequently that doubt was cast on the positive observations, and it was suggested that possibly it did not appear in the same form in this stage of the disease. Of late there have been so many positive findings in tertiary luetic lesions that there seems no doubt that the organism is present in them also, but in greatly reduced numbers. This makes it certain that tertiary lesions are infective, which many have doubted, but which is further substantiated by successful inoculation of apes with large quantities of gummatous material. The most striking aspect of infection with the *Spirochæte pallida* occurs in connection with congenital syphilis. The failure of the earlier observers to find the organism in but a small percentage of cases of the hereditary disease has been replaced by almost constant success by the introduction of the silver method of staining. Recent reports show that in many instances the parasites are present in the tissues of syphilitic infants in enormous numbers, and, as a rule, the organs showing the most marked lesions contain the largest number of parasites.

It can easily be seen on looking over the literature that, with very few exceptions, the work of Schaudinn and Hoffmann seems to have been confirmed. Organisms have been described in connection with non-syphilitic lesions which their discoverers have claimed could not be distinguished from *Spirochæte pallida*. Submitted to experts these organisms have, without exception, been shown to differ in one way or another from that parasite. It is nevertheless true that a good deal of experience is required to make the distinction in some cases. The silver method has been attacked by several observers, who have claimed that the so-called spirochetes were nerve fibrils or fine strands of intercellular substance. These claims have not stood the test of investigation, and in the face of the immense number of controls seem almost ridiculous. It seems reasonably certain that the cause of syphilis has at last been discovered. Certainly, though all of Koch's postulates can not be fulfilled in connection with this organism, we are as much justified in regarding it as the cause of syphilis as we are in regarding *Bacillus leprœ* as the cause of leprosy.

The practical aspects of the discovery are at present not much dwelt on, but it seems certain that great practical benefit must result. In some instances the discovery has actually been put to the test successfully, in the recognition of doubtful cases, and in the early diagnosis of the disease from the primary lesion. That this has not been done more often is doubtless due to the difficulty in staining and recognizing the organism. There is little question that in time methods of rapid and more intense staining will be discovered; in fact, advances have already been made in this direction. We may then hope that a search for the organism will become a routine procedure in patients suspected of having syphilis. The possibility of cultivating the organism and of producing a curative serum seems to be remote, but there is no reason why in time the difficulties which at present prevent this desirable consummation may not be overcome.

SEWAGE DISPOSAL IN CHICAGO.

The recent recommendations of the experts of the International Waterways Commission have caused the specter of Chicago sewage disposal to raise its head anew. As is well known, the larger part of the sewage of the city of Chicago is now discharged into the Chicago Drainage Canal. A large and well-populated territory, both south and north of the district draining into the main canal, is, however, still not connected with the canal, and this fact is not only a source of some complaint on the part of taxpayers, but is a real menace to the water supply of certain sections of the city. The rapidly growing population in and about South Chicago still drains into the lake—a condition that apparently endangers the purity of the Hyde Park water supply. We are told that *B. coli* is found at times in considerable numbers in the tap water derived from the Hyde Park intake.

In view of the conditions threatening the purity of a portion of the water supply, the trustees of the sanitary district of Chicago have been urging the construction of a new canal to drain the Calumet and South Chicago area. This proposition, however, which entails increasing still further the amount of water diverted from Lake Michigan through the Drainage Canal, has met with opposition from the International Waterways Commission. Two eminent New York sanitary engineers, working under the auspices of the commission, have recently submitted a substitute proposition designed to obviate the necessity for digging the Calumet canal. These authorities have reached the conclusion that the extension of the dilution method to the outlying territory is not the only way to preserve the lives and health of the people of Chicago. In place of a new canal, they recommend the purification of the sewage by an efficient system of filtration, sprinkling filters being the least expensive of the methods suggested. By the use of sprinkling filters, which are cheaper both in point of construction and in annual cost of operation than either intermittent sand filters or contact filters, an adequate degree of purification can be accomplished.

It is reported that the trustees of the sanitary district will oppose the plan so presented. The objection that the sand dunes of the State of Indiana will be injured seriously by a properly managed system of sewage disposal is not one that can have much weight when the success of the sewage farms of Berlin and Paris is kept in mind. Such a system of disposal is more likely to augment than to detract from the resources of a barren tract of land. It will be remembered, also, that great ad-

vances have been made in the scientific disposal of sewage within a few years, and that the purification of sewage on relatively small areas is much better understood than it was sixteen years ago when the Drainage Canal was begun. It is interesting to note that Mr. Hering, one of the engineers who has drawn up the report referred to, was also a member of the commission that originally recommended the construction of the Drainage Canal. No one, we believe, will be more ready than Mr. Hering to admit that a noteworthy advance in scientific knowledge has occurred since his first report. One of the members of the drainage board is said to have remarked that the report of Messrs. Hering and Fuller is "more a treatise on bacteriology and scientific sewerage than a feasible scheme for the remedy of Chicago's drainage troubles." He thinks that it may be safely admitted that such troubles are likely to partake more and more of the nature of scientific problems and will fall more and more into the hands of experts. In the long run, treatises on bacteriology, chemistry and engineering can not fail to supplant the opinions held even by the most intelligent and public-spirited laymen. The question of a "deep waterway" from Chicago to the Gulf should be kept separate from a consideration of the best means of disposing of sewage and maintaining the purity of the city water supply. The sanitary needs of a city should not be confused with an avowedly commercial project, however desirable in itself the latter may be.

Briefly speaking, several points seem to deserve consideration in the present situation: First, the general feasibility of a scheme of sewage filtration; second, the relative efficiency and desirability of sewage filtration as compared with the construction of another drainage canal with its consequent problems of dilution and effect on the Illinois valley; third, the relative expense of filtration and dilution methods, and, fourth, the future of the whole water supply and sewage disposal system in Chicago, so far as can be forecasted from the probable increase of population.

STATE TUBERCULOSIS SANATORIA.

The movement for the establishment of a state tuberculosis sanatorium in Indiana is meeting with opposition from physicians in one locality. A circular has been sent out and appears in the newspapers signed by twelve physicians protesting against an appropriation for any such purpose. It is argued that the benefits of such an establishment would not compensate for the cost to the taxpayers. The curability of advanced tuberculosis in the climate of Indiana is questioned, as well as the value of the open-air treatment in such a climate. The danger of its infectiousness is also discussed. Of course, it is a matter for the taxpayers of Indiana to consider whether or not the benefit will be such as to warrant the expenditure, but the experience in other states has shown that state tuberculosis sanatoria properly managed and absolutely freed from political influence have a decided value, not so much for the numbers of cures, perhaps, though that is not to be underestimated, but as educative centers. That tuberculosis taken early is curable in many cases is a sufficiently established fact—indeed, the number of such cases occurring spontaneously or under any kind of treatment is probably far greater than has been generally recognized. When we consider the almost universal distribution of the infection it would seem probable that a very respectable portion of the population are instances of cured tuberculosis. When the disease has advanced far enough to be readily recognizable there is no question but that placing the patient under proper conditions and treatment such as can be obtained in a well-managed modern tuberculosis sanatorium in any climate, even the changeable one of our northern lake states, will greatly improve the chances for recovery, and it is unreasonable to assume that such conditions are likely to prevail or are fully supplied at present in the average home. The existence of a sanatorium would, therefore, be justified. Home conditions also can be greatly improved; and the greatest value of a state sanatorium should be largely in the educative influence it ought to exert in bringing about such improvement. It is true that too much may be expected from such an institution, and that it may be perverted to some extent by political mismanagement, but both of these drawbacks should be considered beforehand and guarded against so far as possible. It is also true that we may be overestimating the special danger of infection and undervaluing the influence of heredity to some extent, as the Indiana protestors allege, but, taken as a whole, their argument against the establishment of such an institution is not creditable to those who signed the circular.

CONGRESS ASKED TO REMOVE POSTAL PROTECTION AGAINST FRAUDS.

A bill that passed the lower house of Congress January 7 and that is now before the Senate calls for the attention of physicians. Its object is to deprive the Postmaster General of the power to refuse the privileges of the mails to the promoters of frauds, and it masquerades under the simple title "providing for a judicial review of the orders excluding persons from the use of the United States mail facilities." It was introduced and supported, it is said, by congressmen who have among their constituents the promoters of certain notorious nostrums and other frauds. Under the present law the persons reported by the postoffice inspectors have the opportunity of appearing before the assistant attorney general for the department and stating their side of the case before a fraud order is issued; under the proposed law they would have the privilege of interposing all the law's technicalities and delays—and every one knows what they are—before an order could become effective. The unsuspicious public would thus be at the mercy of the swindlers until they had worked out their vein and swallowed and digested the profits. Every one who has given attention to the subject has recognized that the Postoffice Department, by its fraud order system, is one of the chief protections to the public. That no injustice is done is sufficiently shown by

the fact that in over 2,600 fraud orders issued the department's ruling has been questioned in only about thirty instances, and in only two cases have injunctions been granted: in one on a technicality, and in the other on constitutional grounds, which were later overthrown by the decision of the Supreme Court. Millions in money, to say nothing of the benefits to health and morals, which should be always the first considered, have thus been saved to the public. We can not afford to let this safeguard of the moral, physical and financial welfare be thus abolished.

NATIONAL VS. STATE PURE-FOOD LAWS.

The national pure food act, which went into effect January 1, carries with it, in a negative way, a danger that is not inconsiderable. The unthinking may be lulled into a sense of false security and unconsciously may get the idea that impure and adulterated food is henceforth to be a *rara avis* on the market. This act, while prohibiting the sale of impure foods within the District of Columbia, in the several territories and outside of the state in which it is manufactured, in no way interferes with a purveyor of adulterated foodstuffs in any particular state—provided such foods are sold within the state where manufactured. In other words, while any food that is brought in from another state must come up to the standard of purity required by the national law, the foodstuffs manufactured within one's own state may be grossly sophisticated. This gives the dishonest manufacturer a chance to unload on his home market what old stock he has that does not comply with the federal requirements and also permits him to continue to manufacture and sell within his home state food material that is impure and adulterated. The way to prevent this dishonest and health-destroying traffic in a state is to enact a state pure food law.

Medical News

ALABAMA.

McCormack Addresses the Legislators.—Dr. J. N. McCormack, who has been speaking in Alabama in the interests of medical organization and health matters, delivered an address at Montgomery, January 10, before a joint session of the General Assembly of the state. The Montgomery *Advertiser* says: "Dr. McCormack spoke for nearly two hours, pointing out the great things that have been accomplished by the medical profession, confessing frankly to the sins of omission and commission of the profession, and urging, in stirring terms, the passage of laws which will give the doctor greater opportunity to do things for the health of the community in which he lives. At the conclusion of his address the following resolution was presented and adopted unanimously:

Resolved, That the thanks of this audience be tendered Dr. McCormack for his able and illuminating address on the relation of the medical profession to the general public and to legislative bodies, national and state, and to the public service. As legislators and representative men we realize that the clearer light thrown on the genesis and methods of destruction of disease, by such addresses as this, has imposed new and higher duties on us as guardians of the people's welfare, and that the legitimate domain of the legislator has been widened, in the light of modern science.

CALIFORNIA.

Illegal Practitioner Fined.—A. M. Seuitka, Los Angeles, a Japanese, accused of practicing medicine without license, is said to have been found guilty and fined $50, December 20.

Health of the State.—The monthly bulletin of the State Board of Health for November shows that there were reported during the month 2,585 deaths, 1,839 births, and 2,158 marriages.

Society Meeting.—At the last meeting of the Marin County Society the following officers were elected: Dr. William F. Jones, San Rafael, president; Dr. Frederick J. Hund, San Rafael, vice-president; Dr. John H. Kuser, Novato, secretary and treasurer.

Cleared from Manslaughter.—The indictment charging Dr. Charles Freedman, assistant police surgeon of Los Angeles, with involuntary manslaughter, by alleged carelessness in operating on a Mexican, August 12, was dismissed by the judge of the superior court, December 19.

Smallpox.—Smallpox is reported to be epidemic in Quincy, Plumas County, where there are a number of cases of mild type.——Smallpox has broken out on the Shippee ranch, above Bellota, and it is said that there are several cases of the disease in the vicinity of the ranch.——At Webb's Station two cases of smallpox are reported.

Diphtheria.—Two cases of diphtheria are reported in one family in Stockton.——The Grant school, Oakland, which was closed early in December on account of diphtheria among its pupils, will remain closed indefinitely, by order of Health Officer Ewer. He considers conditions in the school house such as to be favorable to the spread of diphtheria. On examination of throat cultures from 850 pupils it was found that fully 25 per cent. were affected.

Southern California Physicians Meet.—The Southern California Medical Society at its annual meeting in Los Angeles, December 5 and 6, elected the following officers: Dr. Cornelius Van Zwalenburg, Riverside, president; Drs. William W. Roblee, Riverside, and George E. Abbott, Pasadena, vice-presidents, and Dr. Joseph M. King, Los Angeles, secretary. At the banquet at the Angelus Hotel, on the last evening, Dr. Woods Hutchinson was the toastmaster.

Typhoid in Refugee Camps.—The committee appointed by the San Francisco County Medical Society to investigate the typhoid conditions since the fire and earthquake, has reported a steady increase of typhoid fever, the highest number being 322 cases in October. The committee reports that the disease is most prevalent around the so-called "irregular" refugee camps, composed of the huts of individuals who mainly support themselves and where the sanitary conditions are of the worst order. The committee advises regulation of these camps and also suggests that an inspection be made of the milk supplied from dairies outside of San Francisco County.

Personal.—Dr. Oliver D. Hamlin has been appointed physician in charge of the Receiving Hospital, Oakland, and Dr. William H. Irwin has been appointed assistant physician.——Dr. Charles E. Congdon, Jamestown, was thrown from his buggy December 1, in a runaway accident, sustaining serious injuries.——Dr. Ellis Harbert, Stockton, has been appointed consulting surgeon of the Santa Fe System, in charge of the division from San Francisco to Bakersfield, and Dr. Harry W. Taggart has been appointed local surgeon at Stockton.——Dr. Henry H. Lissner, San Francisco, has started for Europe.——Dr. Woods Hutchinson, Redlands, has succeeded Dr. George W. Tape as medical director of the Arrowhead Sanitarium.——Dr. Arthur D. Houghton has been appointed superintendent of the Los Angeles Detention Hospital.

COLORADO.

Deaths for November.—During November there were reported to the State Board of Health 809 deaths and 30 stillbirths, equal to an annual death rate per 1,000 of 16.01. During the month 52 deaths occurred from typhoid fever and 7 each from diphtheria and scarlet fever.

More Typhoid in Denver.—In his annual report, the health commissioner of Denver declares that there has been a large increase in typhoid fever during the year, ascribing this to the number of people who camp out during the summer and drink polluted water from streams and rivers. During the year there were 3,050 deaths, of which 611 were due to tuberculosis and 268 to pneumonia.——During November 323 cases of typhoid fever were reported in the entire state, however, a decrease of 381 cases as compared with the previous month; 195 cases of scarlet fever, an increase of 73; 54 cases of diphtheria, an increase of 17, and 36 cases of smallpox, an increase of 33, as compared with October.

DISTRICT OF COLUMBIA.

The Hazen Estate.—Letters of administration have been granted to the widow of Dr. David H. Hazen, who died intestate, leaving an estate valued at $225,000.

Society Meeting.—At the annual meeting of the Medico-Chirurgical Society of the District of Columbia, held in Washington, December 27, the following officers were elected: Dr. George W. Cabiniss, president; Drs. Creed W. Childs and Melchiah M. Lucas, vice-presidents; Dr. John W. Mitchell, recording secretary; Dr. Albert Ridgeley, corresponding secretary; Dr. Charles H. Marshall, treasurer; Dr. Edward D. Scott, librarian, and Drs. Robert Reyburn, Furmann J. Shadd, Daniel S. Lamb, John R. Francis and Austin M. Curtis, censors.

GEORGIA.

More City Physicians.—At a special meeting of the Augusta council provision was made for a physician to be known as special physician for the treatment of contagious and infectious diseases. The council now has the appointment of five city physicians.

Personal.—Dr. Harry B. Nunnally, Monroe, has been made assistant senior surgeon at the Grady Hospital, Atlanta.——Dr. Reynolds Kirby-Smith, Atlanta, has resigned his commission in the Army and will return to Atlanta to practice medicine.——Dr. Charles H. Richardson has been elected mayor of Montezuma.——Dr. Frank M. Ridley, Jr., was shot and seriously wounded while attending a wedding at La Grange, January 2.

Society Meetings.—The Chatham County Medical Society held its annual meeting December 12 at Sparta and elected the following officers: Dr. Thomas J. Charlton, president; Dr. Joseph G. Jarrell, vice-president; Dr. John M. Sigman, secretary; Dr. Ralph M. Thomson, treasurer, and Dr. John L. Farner, censor, all of Savannah.——At a recent meeting of the Atlanta Medical Library Association Dr. Michael Hoke was elected president; Dr. E. Bates Block, secretary, and Dr. Edgar G. Ballenger, treasurer. A committee of 10 was appointed to consider the upbuilding and enlargement of the scope of the Atlanta Medical Library.——The Habersham County Medical Association met in Cornelia, December 19, and elected the following officers: Dr. Oliver T. White, Mount Airy, president; Dr. John B. Jackson, Clarksville, vice-president, and Dr. John K. Burns, Clarksville, secretary and treasurer.——At the annual meeting of the Fulton County Medical Society, held at Atlanta December 20, the following officers were elected: Dr. Claude A. Smith, president; Dr. Walter B. Emery, vice-president; Dr. Michael Hoke, secretary; Dr. Emil von Goidtsnoven, treasurer, and Drs. Cyrus W. Strickler, Edward C. Davis and John C. Olmsted, censors, all of Atlanta.

ILLINOIS.

Automobile Ambulance.—The commissioners of Cook County have invited proposals for an automobile ambulance, for the use of Cook County Hospital.

Fined for Practicing Without a License.—C. P. Brunig of Pea Ridge is reported to have been tried before a jury at Mount Sterling for practicing as a physician, without a state license, and to have been fined $100 and costs.

Fined for Distributing Medicine Samples.—For violating a provision of the Moline city ordinance, which prohibits the distribution of medical samples, Haudy Berndt was fined $5 and costs, January 3.

Low Death Rate.—Evanston claims to be one of the healthiest cities in the country, with a death rate of 9.33 per 1,000 for 1906. Pneumonia caused 30 deaths and tuberculosis 22, out of the 215 deaths of the year.

Medical Science Library Incorporated.—The Evanston Medical Science Association has been incorporated with the object of collecting and maintaining a medical library, not for profit. The incorporators are William G. Alexander, and Drs. Stephen V. Balderston and Edward H. Webster.

Oppose Advertising.—At the quarterly meeting of the Coles County Medical Society, at Charleston, January 8, stringent resolutions were passed with reference to the appearance of names of members of the society in the lay press, in connection with accidents, operations and the like.

Vaccinnation Order Annulled.—Notice was given to the board of education at Galesburg by the board of health, annulling the order which requires all pupils attending public schools to be vaccinated. This action was taken on account of the diminution of smallpox and the failure of new cases to appear.

Cook County Coroner's Report.—During December the coroner of Cook County held inquests in 386 cases of violent or sudden death. Of these one was a Chinaman and 18 were negroes. There were 14 murders, 34 suicides, 50 deaths from railroad accidents, 22 from falls, 21 from alcoholism and 140 were reported to be from natural causes.

State Board Election.—At the annual meeting of the State Board of Health in Springfield, January 15, Dr. George W. Webster, Chicago, was re-elected president, and Dr. James A. Egan, Springfield, was re-elected secretary and treasurer. This is Dr. Egan's eleventh year as secretary of the board.

To Advance Secretary of Board of Charities.—The president of the Illinois State Board of Charities has sent a communication to the attorney general urging the necessity of a resident head for the office force of the board; one who should be more than a secretary or a clerk, and who should be provided with a sufficient number of assistants. Secretary Graves is, it is said, mentioned for the new position.

Communicable Diseases.—The mayor of DeKalb announces that the quarantine against scarlet fever is being strictly respected, and that the disease appears to be under control. ——A number of cases of scarlet fever are reported in Ivesdale.——After a long period of immunity from the disease, two cases of scarlet fever are reported in Elgin.——Aurora reports five cases of scarlet fever.——The spread of scarlet fever in Aledo has been checked, and no new cases have appeared for several days.——Peoria is reported to have fifteen cases of typhoid fever on East Bluff, and these have been traced to an infected milk supply.

Personal.—Dr. J. C. Westervelt, Shelbyville, chief medical inspector of the State Board, has assumed the duties of assistant secretary of the board.——Dr. William W. VanWormer, Girard, has been appointed division superintendent of the Chicago and Alton Railroad, vice Dr. Charles A. Allen, Virden, resigned.——Dr. Edward L. Mitchell, Monmouth, was struck by a falling ladder at the Monmouth Hospital, January 7, which temporarily stunned him and caused a severe scalp wound.——Dr. Walter B. Stewart has been named health commissioner of Joliet, vice Dr. William A. McRoberts, resigned. ——Dr. Charles Taylor, Elkhart, has resigned as superintendent of the Illinois Asylum for Feeble-Minded Children, Lincoln.

Chicago.

Fire in Hospital.—A fire, which broke out in the attic of the South Chicago Hospital, January 12, necessitated the temporary removal of 17 patients, but little damage was done.

Local Charities.—By the will of the late Bernard Neu, who died October 1 in Hamburg, $500 is bequeathed to Michael Reese Hospital, and $200 each to St. Luke's and Alexian Brothers' hospitals, and the Home for Incurables.

Visiting Nurses.—The superintendent of the Chicago Visiting Nurses' Association, at the annual meeting, reported that 71,980 visits had been made by the nurses of the association to the sick and suffering of Chicago during the year.

Convicted of Cocain Selling.—Dr. Albert Dahlberg, who was found guilty by a jury of the illegal selling of cocain, is reported to have been fined $200, January 3, and to have been sent to the house of correction until payment of the fine.

Children's Hospital Society Meeting.—At the annual meeting of the Children's Hospital Society, January 6, $1,300 was ordered to be distributed to the various hospitals where children have been cared for. Dr. Frank Billings was re-elected president of the society, and Dr. Frank S. Churchill, secretary.

Deaths of the Week.—The death rate of the week, 17.29 per 1,000 per annum, was the highest January death rate since 1899, and is nearly 17 per cent. greater than that of the corresponding week of 1906. The greatest increase in mortality was among the aged and those afflicted with chronic diseases. Of the total of 609 deaths, 117 were due to pneumonia, 93 to tuberculosis, 55 to nephritis, and 54 to heart diseases.

INDIANA.

Applies for New Trial.—W. H. Gray, La Porte, who was fined $25 and costs early in December, for practicing medicine without a license, has applied for a new trial on the grounds that he was convicted on false testimony.

Regulation of Distribution of Medicines.—The Anderson city council, at a meeting held Dec. 31, 1906, passed an ordinance requiring all distributors of medicine samples to submit the articles to the board of health for examination. Any violation of this ordinance will be punished by a fine of from $10 to $100 and 30 days' imprisonment.

Settled by Compromise.—It is reported in the daily press that the charges preferred against Dr. Stephen D. Spees, Terre Haute, by the State Board of Medical Registration and Exam-

ination are to be dismissed, on condition that the defendant agrees to go to a medical school and takes a postgraduate course, after which he is to take an examination before the state board in the regular way.

Society Meeting.—At the recent meeting of the Fountain County Medical Society the following officers were elected: Dr. Louis A. Bolling, Attica, president; Dr. Clinton G. Beckett, Attica, vice-president; Dr. George Rowland, Covington, secretary-treasurer, Dr. George H. Dinsmore, Kramer, delegate to the state medical society; Dr. Frederick J. Walter, Kramer, delegate to the American Medical Association, and Drs. Marshall Petet, Verdersburg, Alva L. Spinning, Covington, and Walter H. Ross, Veedersburg, censors.

Personal.—Dr. George U. Runcie, Poseyville, has resigned as president of the board of town trustees.——Dr. John C. Baxter, Auburn, will continue as coroner of DeKalb County for the next two years.——Dr. George P. Cosby, Evansville, is suffering from optic neuritis.——Dr. George Smith has been elected health officer for Knightstown, vice Dr. Omar H. Barrett.——Dr. Aljah W. Lloyd, Marion, health officer of Grant County, is taking a trip to Arizona. During his absence Dr. Otis W. McQuown is acting in his stead.——Dr. Robert A. Cushman, Princeton, has been selected as mine physician for the ensuing year.

IOWA.

Communicable Diseases.—The health officer of Oskaloosa reports that there are now only twelve or fourteen cases of smallpox in the city, that all are under quarantine, and that no new cases have developed.

Personal.—Dr. Robert E. Conniff, Sioux City, for fourteen years a member of the State Board of Health and for four years its president, has resigned, to take effect January 31. Dr. A. M. Linn, a member of the board, gave a banquet, January 9, at his home in Des Moines, in honor of Dr. Conniff.——Dr. Manuel M. Scheuer, Valley Junction, has been appointed division surgeon for the Rock Island System, vice Dr. Charles E. Diehl.

Successful Tuberculosis Propaganda.—The State Board of Control has selected a tract of 280 acres of land, 5 miles north of Iowa City, on the Cedar Rapids-Iowa City interurban electric line, as a site for the State Hospital for Tuberculosis. The profession of Iowa and the Iowa Association for the Study and Prevention of Tuberculosis are much pleased over the expected hospital, in the securing of which their efforts have assisted.

Society Meeting.—At the annual meeting of the Chickasaw County Medical Society at New Hampton, December 4, the following officers were elected: President, Dr. Amos Babcock, New Hampton; vice-president, Dr. Perry E. Stuart, Nashua, and secretary-treasurer, Dr. Edwin N. Johnston, Fredericksburg. The society adopted resolutions setting forth that the indiscriminate practice of embalming the dead is wholly unnecessary, and that in a case of suspected poisoning it often prevents the establishment of actual facts; that a law should be passed making it a misdemeanor to embalm dead bodies, until after the death certificate has been issued, and then only after the embalmer has been specifically employed by the proper authorities.

KANSAS.

Asylum for Insane.—The State Board of Control will recommend that the legislature provide for the establishment of an asylum for the care of the incurable insane in the state and that the present plan of county asylums be done away with.

Unlicensed Practitioner Fined.—Joseph Huff, a self-styled "cancer doctor" of Franklin County, is reported to have been recently fined $50 for practicing medicine without a license, and has appealed to the Supreme Court.

Personal.—Dr. Arthur W. Clark, Lawrence, physician of Douglas County has resigned.——Dr. H. E. Williamson, Olathe, was run over by a street car in Kansas City recently, necessitating the amputation of both legs above the ankle.

Cost of State Hospitals.—The per capita cost of maintaining patients at the Topeka State Hospital for the Insane was $157.16 for the fiscal year ending June 30, 1905; for the next fiscal year the cost was reduced to $136.46. At the Osawatomie Hospital the per capita cost was $135.63.

Society Elections.—The Southern Kansas Medical Society held its annual meeting at Wichita, December 27 and 28, and elected the following officers: President, Dr. George K. Purves; vice-president, Dr. James E. Oldham; secretary, Dr. Frederick B. Lyons, and treasurer, Dr. Martin Hagan, all of Wichita.

Druggists Want Medicine Venders to Pay License.—The members of the Allen County Druggists' Association are petitioning the legislature to pass a law requiring all medicine peddlers to take out a state permit, as the regular druggist is required to do. This movement is not confined to Allen County, as other druggists throughout Kansas are contemplating similar action.

Plans for State Medical School.—Dr. George H. Hoxie, dean of the University of Kansas School of Medicine, announces that the ultimate plan for the institution is the erection of nine buildings, to cost about a quarter of a million of dollars. The hospital building is already finished and in service; a second building for laboratory and class purposes, is almost ready, and the new dispensary at Armourdale will be ready for opening in the autumn.

State Sanatorium for Consumptives.—The secretary of the State Board of Health will ask the legislature this winter to appropriate $235,000 for the establishment of a state sanatorium for the treatment of consumptives, of which $200,000 is expected to be used in the purchase of a site and construction of buildings, and $35,000 to be allowed for maintenance. It is his opinion that the sanatorium should be located at some point in western Kansas.

Hospital Notes.—Vail Cottage, the new pavilion for nervous diseases at Christ Hospital, Topeka, constructed at a cost of $12,000, has been formally dedicated.——The Bethel Hospital directors have decided immediately to begin work on the building of a new Mennonite hospital at Newton.——The Arkansas City Hospital is now practically completed and ready for the reception of patients. The institution has been erected at a cost of about $9,000 and is thoroughly equipped.——A building permit has been issued for an addition to the Bethesda Hospital, Topeka, to cost $600.

Communicable Diseases.—Four cases of diphtheria are under quarantine at Salina. The county health officer has notified all physicians immediately to quarantine all cases suspected of being diphtheria.——The epidemic of diphtheria in Council Grove and the southern part of Morris County caused the abandonment of all public Christmas exercises and similar gatherings. In the five days preceding Christmas three deaths were reported.——Several cases of diphtheria, with two deaths, are reported from New Cambria.——Jamestown is under strict quarantine, on account of the presence of diphtheria.——Smallpox is reported to be prevalent in Cherryvale.——Smallpox is reported to have broken out at Niles.——A case of smallpox is reported at the Soldiers' Home, Leavenworth.

KENTUCKY.

Diphtheria.—The school trustees of Shepherdsville have ordered the schools closed, because of the presence of diphtheria in the town.

Hospital Notes.—About $10,000 has been subscribed to the Cynthiana Hospital, and $5,000 additional is required to furnish the proper equipment. A site has been secured, with four acres of ground, on Penn Street, on which is a large residence which can easily be adapted for the purpose.

County Society Elects.—At the annual meeting of the Jefferson County Medical Association in Louisville, December 18, the following officers were elected: Dr. Sidney J. Meyers, president; Dr. Dunning S. Wilson, vice-president; Dr. Virgil E. Simpson, treasurer, and Dr. Charles W. Hibbitt, secretary.

Kentucky Valley Physicians Meet.—At the annual meeting of the Kentucky Valley Medical Association at Campton the following officers were elected: Dr. James H. Stamper, Campton, president, and Dr. Cornelius Marcum, Millers Creek, vice-president. The next meeting of the association will be held at Torrent in June next.

LOUISIANA.

Smallpox.—A number of cases of smallpox are reported from Napoleonville by the parish health officer.——An epidemic of smallpox is reported in Caldwell Parish.——The threatened epidemic of smallpox at Angola is well in hand, and it is expected that the disease will soon be stamped out.

The Delgado Memorial.—Mr. Isaac Delgado has given $180,000 to the Charity Hospital, New Orleans, for the erection of the Delgado Memorial, a building to be devoted to the treatment of chronic and incurable diseases. This is an addition to the $20,000 already given the hospital by the late Mrs. Samuel Delgado.

Society Meeting.—At the annual meeting of the Orleans Parish Medical Society the following officers were elected: President, Dr. John J. Archinard; vice-presidents, Drs. John B. Elliott, Jr., Charles J. Landfried and John J. Laurans; secretary, Dr. Amidie Granger (re-elected); treasurer, Dr. Edward O. Trahan; librarian, Dr. Homer Dupuy (re-elected); and directors, Dr. C. Jefferson Miller, J. Farrar Patton and Edwin J. Graner.

Personal.—Dr. George M. Snelling, New Orleans, has returned from Europe.——Dr. William J. Emmer has been elected chairman of the New Iberia Board of Health, vice Dr. Adolph Koch.——Dr. Robert J. Young, Abbeville, is reported to be ill at the St. Charles Hotel, New Orleans.——Dr. Thomas G. Ford has been elected president, and Dr. Randell Hunt re-electe surgeon and superintendent of the State Charity Hospital, Shreveport.——Dr. Oscar Dowling, Shreveport, has been appointed a member of the State Board of Health, vice Dr. T. Edgar Schumpert.

Tuberculosis Campaign.—The Louisiana Anti-Tuberculosis League has been organized, with Dr. Edward L. McGehee, New Orleans, as permanent chairman. Among those who took part in the meeting were Dr. Wallace J. Durel, New Orleans, representing the Louisiana State Medical Society; Dr. William T. O'Reilly, the New Orleans Board of Health; Dr. Susanna Otis, the New Orleans Dispensary for Women and Children; Dr. Fred J. Mayer Scott, the Louisiana State Board of Health; Dr. John B. Elliott, the New Orleans Parish Medical Society; Dr. Felix A. Larue, New Orleans, the Louisiana State Board of Medical Examiners; Dr. G. Farrar Patton, the New Orleans Polyclinic; Dr. Edmund M. Dupaquier, the New Orleans Sanitarium; Dr. Alexander Ledoux, the New Orleans Progressive Union; Dr. John T. Halsey, the Medical Department of Tulane University, and Drs. Ralph Hopkins, J. Birney Guthrie, Isaac I. Lemann and Ernest S. Lewis.

MARYLAND.

Personal.—Dr. Charles W. MacGill is reported to be seriously ill at his home in Catonsville.——Dr. Washington G. Turck, Annapolis, celebrated his seventy-fifth birthday anniversary with a family reunion, January 8.

Smallpox.—A case of smallpox has been discovered in a negro settlement near Edesville, Kent County, Maryland. A teacher in the public school in Kent County has developed smallpox and it is said that a number of pupils are ill. All the white and colored public schools in Kent have been closed, pending inspection.——Three cases of smallpox are reported at Lansdowne.

State **Sanatorium.**—The board of directors of the Maryland Tuberculosis Sanatorium, after trying in vain to secure a suitable site, have advertised, the requirements being 100 acres of land at an elevation of from 1,000 to 1,500 feet, one-half, at least, to be cleared land with a southern slope, and an abundant supply of pure water. The location must be in immediate proximity to the railroad and as near to centers of population as possible.

Society **Meeting.**—The Anne Arundel County Medical Society met at Annapolis January 8, and elected the following officers: President, Dr. Harry B. Gantt, Millersville; vice-president, Dr. W. Clement Claude, Annapolis; secretary, Dr. Louis B. Henkle, Jr., Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis; censors, Drs. Thomas H. Brayshaw, Glenburnie, and Joseph M. Worthington and William S. Welch, Annapolis, and delegates to the Medico-Chirurgical Faculty of Maryland, Drs. Thomas H. Brayshaw, Glenburnie, and Walton H. Hopkins, Annapolis.

Baltimore.

Anti-**Spitting Crusade.**—Baltimore has taken up the crusade against spitting in the street cars, on sidewalks and in public buildings, and many arrests have been made by the police.

Bust of **Virchow Presented.**—On the evening of December 31, Dr. John C. Hemmeter presented to the Medical and Chirurgical Faculty of Maryland a life size marble bust of Rudolph Virchow, and made an address on, "Virchow as an Anthropologist."

Respiratory Diseases.—There was a great increase in respiratory diseases during the week ended January 12, doubtless due to the remarkably mild and humid weather. Pneumonia caused 43 deaths; consumption, 40; bronchitis and influenza, each 7. The total number of deaths for the week was 245.

Bequests.—By the will of the late Mrs. Ella Burns Beaston, about $200,000 will eventually be received by the hospital for consumptives of Maryland. She also left $10,000 to the Hospital for Women, Maryland, and $10,000 to the Church Home and Infirmary. These bequests are to become effectual on the death of the mother of Mrs. Beaston.

Delay in Securing Hospital Site.—The property owners near the proposed twenty acre lot in the vicinity of the alms house, where it was proposed to build, have threatened injunctions if the city persists in its intention to build there. It is therefore announced that the authorities will erect the hospital on an eight acre lot in the same neighborhood.

Fatal Accidents.—During 1906, 278 fatal accidents were reported. Of these 49 were caused by railroads, 29 by street cars, 59 by drowning and 28 to burns.——During the year there were 23 homicides and 72 suicides. Of the latter 61 were white males, 12 white females, 2 were Chinese and two were negroes. The ages ranged from 17 to 78.

Acceptance of Libraries.—On January 3 the formal acceptance of the two collections of books presented to the Library of the Johns Hopkins Medical School was made, with addresses by Dr. William Osler and Wm. H. Welch. The Marbury collection is the old Warrington Dispensary library of Liverpool, containing 944 volumes of the sixteenth, seventeenth and eighteenth centuries, and is especially valuable for the study of the history of medicine. The Jenks collection is on monstrosities and numbers 936 volumes. It is the Friedrich Ahlfeld library of Marburg, Germany.

Registration of Tuberculosis.—Maryland has now a law requiring physicians to register all cases of tuberculosis with the State Board of Health. The state and city makes free examination of the sputum of persons suspected of having tuberculosis and the state makes compulsory the fumigation of apartments vacated by death or removal of consumptives. This law works no hardship and is considered beneficent by both physicians and laymen. The members of the Maryland Association for the Prevention and Relief of Tuberculosis, to whose persistent efforts its passage is due, are working for the passage of a similar law for the District of Columbia, which is now pending in the Senate.

Personal.—Dr. Arthur Wegefarth, president of the Northeastern Dispensary, gave a dinner to the physicians of that institution December 28.——Employés of the health department entertained Health Commissioner Dr. James Bosley at their annual banquet. Assistant Health Commissioner Jones acted as toastmaster. During the evening Dr. Leonard J. Turlington, health warden of ward 27, was presented with a set of silver spoons by his colleagues.——Dr. Isabella K. Godfrey has retired from the practice of medicine and resumed the pursuit of music and art.——Dr. William A. Fisher, Jr., is at Lucerne, Switzerland.——Dr. Arthur M. Shipley and Dr. Gordon Wilson have returned after three months' work with Professor Chiari, Strassburg.——Dr. William Hewson, Baltzell, has returned after two years abroad.——Dr. William Osler was in Baltimore from December 29 to January 4, the guest of Dr. Henry Barton Jacobs. He sailed from New York January 8, on his return to England.——Drs. H. M. Baxley, Edward E. Mackenzie and Edmund A. Munoz have been re-elected attending physicians to the Baltimore General Hospital.——Dr. H. Warren Buckler has been appointed medical inspector of public schools, vice Dr. A. Duvall Atkinson, resigned.——Dr. P. Gustav Dill was robbed of jewelry and an overcoat on January 11 by a highwayman.

MASSACHUSETTS.

Injured in Fire.—Dr. Otto L. Schofield, Wellesley, was severely burned about the face and hands, January 9, by a gasoline explosion and fire which destroyed his automobile and garage.

Nominations.—Dr. Henry E. Sears, Beverly, has been nominated for associate medical examiner of the seventh Essex district.——Dr. George B. McGrath has been nominated to succeed Dr. Francis Harris as medical examiner of Suffolk County.

Rabies.—During the eleven months ended Dec. 1, 1906, at least six deaths from rabies occurred in the state. More than 1,000 dogs were reported as mad. The disease prevails in the counties of Berkshire, Franklin, Hampshire, Hampden, Worcester, Middlesex, Essex, Suffolk, Norfolk, Bristol, Plymouth and Dukes.

Backward School Children.—Superintendent of Schools Brock of Boston, studying the 619 children, 10 years old or over, who are still in the first three grades of the public schools, has found their backwardness to be due in 115 cases to illness and absence caused thereby, in 107 cases to mental weakness or retardation, in 3 cases to deafness and in one case to blindness.

Hospital to be Investigated.—By order of Governor Guild, the Hospital for Dipsomaniacs, Foxboro, established in 1899 at an expense of $150,000, is to be investigated by a committee of the council. It is claimed that the cure of inebriates has been neglected in the effort to make a good financial showing: $20,000 to $30,000 has been expended by the state there each year. In 1905 insane patients were also sent there.

Examination of Dairies.—The State Board of Health, in its crusade for pure, clean milk and dairies, examined 271 dairies in November, nearly all in western Massachusetts. Fifty were

found satisfactory. Amherst had 24 of these out of a total of 122; Holyoke 8 out of 28; Northampton 3 out of 31, and South Hadley 10 out of 60, not a very good showing for college towns. Of 684 food or drug samples analyzed 177 were found adulterated, and of 328 samples of milk tested 133 were either adulterated or varied from the legal standard.

Recurrence of Scarlet Fever.—After a long period of quiescence scarlet fever has appeared in almost epidemic form in Boston and vicinity. Cambridge, Malden, Somerville and Everett have the most cases, while Boston has had a similar increase in the south, west and north ends. Boston and Cambridge are using their school medical inspectors to detect and isolate the disease. A probable source has been found in a large milk route. The cases are, as a rule, very mild and are not confined by no means to children. A school in Belmont has been closed.

Issue Muzzling Orders.—The wide prevalence of hydrophobia has led to the adoption by many towns and cities, including Boston, of muzzling orders for periods of three to six months, and authority has been given to Dr. Austin Peters, state cattle commissioner, to enforce such regulations whenever towns or cities neglect to do so. It is hoped that by this means hydrophobia may be kept from some of the counties where it has not yet appeared. Meanwhile so numerous have been the cases due to bites by infected dogs, that a ward for Pasteur treatment has been opened at the Tewksbury Clinic Hospital of the state, and some towns are providing themselves with serum from New York for the treatment of local patients at their homes.

Medical Baths.—The receipts for the medical baths of Boston, for the year ended November 1, were $4,493.03, a gain of $506.53 over the preceding year. These baths are non-commercial, are conducted in a purely ethical manner, and the profits are applied to improvements. Beginning with November 1, a detailed report of each case is sent to the physician referring the patient to the medical baths for treatment. At the time of each treatment the operators record the weight of the patient before and the pulse rate before, during and after each general heating procedure, the character, duration and temperature of each thermotherapeutic and hydrotherapeutic measure, the pressure of douches, the reaction of the patient to cool and cold treatment, the amount of rest before and after treatment, and the systolic blood pressure before and after each carbon-dioxide bath. The committee of physicians in charge is composed of Drs. James J. Putnam, Elbridge G. Cutler and Robert W. Lovett.

MICHIGAN.

Illegal Practitioner Fined.—P. Court Van Woerden, Grand Rapids, who was charged with practicing medicine without a license, claimed in court that his parents in Holland had given him the surname of "Dokter," which he accordingly was legally authorized to use. The court, however, imposed a fine of $100, which was paid.

Personal.—Dr. Louis A. Roller has been elected president of the health board of Grand Rapids.——Dr. Charles F. H. Frieberg has been appointed health officer of Bay City, vice Dr. William Cunningham, deceased.——Dr. John Leeson, Cadillac, has recovered from a severe attack of erysipelas.——Dr. John F. Bennett, has been appointed to succeed Dr. Otto T. Toepel, Detroit, as coroner of Wayne County.——Dr. Andrew P. Biddle, Detroit, is seriously ill with pneumonia.——Dr. William E. Blodgett is recovering from his recent illness.——Dr. Lyman W. Bliss, Saginaw, is reported to be critically ill.——Dr. Stephen S. Hanson, Port Huron, has been appointed physician of St. Clair County, vice Dr. Archibald Maclaren, resigned.——Dr. Charles M. Steele, Battle Creek, has resumed practice after a long and tedious illness. Dr. Thomas A. McGraw, Jr., Detroit, has been seriously ill with streptococcus infection of the throat and myocarditis.

NEW YORK.

Want Good Drinking Water.—At a recent meeting of the Buffalo Academy of Medicine, the members adopted a resolution offered by Dr. Peter W. Van Peyma, opposing any plan for increasing the water supply of Buffalo which does not provide for making the water safely potable.

Hospital Finances Improved.—The friends of the German Hospital, Buffalo, came to its rescue at the recent fair, the proceeds of which after paying all expenses, amounted to $23,274.97. This amount cleared the floating indebtedness, and leaves only the first mortgage to be paid.

To Stop Sale of Cocain.—At a meeting of the State Board of Pharmacy, held in Albany, January 9, steps were taken toward securing legislation at the present session of the legislature to prohibit the sale of cocain in any form except on a physician's prescription. The proposed measure will prohibit the filling of a prescription more than once and will be drastic enough to reach many so-called "catarrh cures" and other compounds known to contain cocain.

Utica Hospital Notes.—The medical staff of the Utica General Hospital held its annual meeting December 18, and elected the following officers: Dr. Fayette H. Peck, president; Dr. Charles E. Chase, vice-president; Dr. William B. T. Roemer, secretary and treasurer; and Drs. Sands C. Maxson, Charles E. Chase, Edward M. Hyland, Judson G. Kilbourn, Thomas H. Farrell, Arthur R. Grant and the president, Dr. Fayette H. Peck, ex-officio, executive committee.——Dr. Morris J. Davies was recommended for appointment as a member of the staff, to succeed Dr. Walter C. Gibson, resigned.——Dr. H. H. Lenahan was appointed as assistant to Dr. Grant in the gynecological department.

Vital Statistics for 1906.—The number of deaths in the entire city for the past year was 76,206, an increase of 2,492 over 1905. According to Dr. Darlington, this increase is due to the increased population. There was an increase of 1,084 deaths from pneumonia, 622 from measles, 424 from heart disease, 420 from tuberculosis, 343 from diphtheria, 286 from violence, 171 from Bright's disease, 166 from old age, 130 from cancer and 107 from scarlet fever. The death rate was 18.35 per 1,000, practically the same as in 1905. The total number of suicides in the entire city was 705, an increase of 45 over the preceding year. The number of marriages in Greater New York was 48,355, an increase of 5,700 over the year 1905. The number of births reported were 111,772, an increase of 8,000 over 1905. This is the highest number of births ever reported to the health department. There was a decrease in the deaths from typhoid fever, malaria, whooping-cough, cerebrospinal meningitis, influenza, bronchitis and stomach troubles in children under 5 years of age.

Incorporation of the Public Health Defense League.—A bill has been introduced in the state legislature providing for the incorporation of the Public Health Defense League under a special charter patterned after that of the Red Cross Society. This indicates the beginning of the work for which the Public Health Defense League was incorporated, i. e., that of an organized movement against medical and surgical quacks, frauds in "patent medicines," etc. As set forth in the charter, the purposes of the league are:

> To obtain and to disseminate accurate information concerning practices and conditions of every kind that are dangerous to the public health and morals, and to work for the enlightenment of the public on all matters affecting these subjects; to work for the enactment of laws in the United States, Territories, and colonial possessions, for the protection and preservation of the public health and morals; to assist the constituted authorities in the enforcement of all laws affecting the public health, including those laws for the prevention of quackery, charlatanism, and criminal practices in the healing art; the prevention of adulteration and substitution of drugs and food substances; the prevention of the sale of narcotics, alcohol, and dangerous substances of every kind whether under the guise of proprietary remedies and so-called patent medicines and nostrums and remedies, or whether sold as narcotics in violation of law; the prevention of admission to the United States mails of all newspapers and printed matter of every sort advertising any business injurious to the public health or morals; and to prohibit the advertising of such business in any way; to oppose and work against the passage of laws detrimental to the public health and morals; to work for the repeal of any law having such an effect; and generally to institute proceedings in law and equity to carry out the objects and purpose of corporation.

This organization's first meeting, in New York City, Nov. 15, 1906, was reported in THE JOURNAL, Nov. 24, 1906, p. 1758.

New York City.

After a Hundred Years.—The by-laws of the Medical Society of the State of New York, just published, show that the membership in the year 1806 was 371, while in the year 1906 it was 2,303.

Small Fire in Bellevue.—A fire broke out recently in the storeroom at Bellevue Hospital and the smoke filled the alcoholic ward, causing a great deal of confusion and necessitating the removal of all the patients from that ward. The fire was soon controlled. Only slight damage was done.

Neurological Officers.—At a meeting of the New York Neurological Society, January 8, the following officers were elected: President, Dr. Charles L. Dana; vice-presidents, Drs. Bernhard Sachs and L. Pierce Clark; recording secretary, Dr. Edwin G. Zabriskie; treasurer, Dr. Graeme M. Hammond.

Physicians Robbed.—Dr. James O'Neil was attacked by three men, knocked down, rendered unconscious and robbed of his money, watch and diamond pin.——Dr. Alexander Trautman's house was entered by burglars, December 20, who stole jewelry and silver valued at several hundred dollars.

Gifts for Hospitals.—The Society of Friendly Sons of St. Patrick, following its usual custom, has forwarded checks for $100 each to the following institutions: St. Vincent's, Presbyterian, St. Francis' and St. Joseph's hospitals; Gabriel's Sanitarium, Gabriels, N. Y., and St. John's Guild.

Suicides.—During the months of September, October and November 191 persons committed suicide in New York City. Of this number 55 died from gunshot wounds, 20 from carbolic acid, 20 from strangulation, 17 from gas asphyxiation, 9 died by jumping from high places and one each from leaping from a train, taking chloroform and taking paris green.

Ambulance Service Stopped.—Owing to strife among doctors and nurses of the Washington Heights Hospital, which is said to have resulted in neglect of the ambulance service, this service has been ordered discontinued by the board of police surgeons. The management of the hospital is being investigated by the board of directors and a complete reorganization of the entire staff is to be effected.

Trachoma in Brooklyn.—Supt. Robert W. Bassett of the Brooklyn Eye and Ear Hospital says that fully 50 per cent. of the school children of Brooklyn are afflicted with eye troubles and that about one-third of that number have trachoma. He is of the opinion that in one-half of these cases of eye trouble the disease is due to personal untidiness, improper food, bad air and poor hygienic surroundings.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 5, 342 cases of tuberculosis, with 180 deaths; 298 cases of diphtheria, with 53 deaths; 225 cases of scarlet fever, with 14 deaths; 157 cases of measles, with 12 deaths; 66 cases of whooping-cough, with 13 deaths; 40 cases of typhoid fever, with 9 deaths; 9 cases of cerebrospinal meningitis, with 14 deaths; also 5 cases of smallpox and 118 of varicella, making a total of 1,260 cases, with 295 deaths.

Hospital Lacks Funds.—The Lying-in Hospital has been able during the past year to use only about two-thirds of its rooms, owing to lack of funds. Only 2,841 patients were taken in and 5,000 were turned away. The total number of cases treated by the society supporting the hospital was 6,265, mostly in tenement houses. More than 8 per cent. of the births in Manhattan during the year occurred in the society's indoor and outdoor departments. The number of visits made by the outdoor department was 33,390. The expenditure for the year was $129,580.

Influenza Prevalent.—Influenza has spread to such an extent as to amount almost to an epidemic. The number of deaths from the disease for the week ended January 5 was 32, as against 8 for the week ended December 29. The deaths from pneumonia and bronchial pneumonia increased from 232 during the week ended December 29 to 358 for the week ended January 5. La grippe is particularly prevalent in Brooklyn, where for the week ended January 5 there were 18 deaths from this disease. The death rate from other diseases usually aggravated by influenza has also increased.

NORTH CAROLINA.

Beds Endowed.—Two beds have been endowed in the Highsmith Hospital, Fayetteville, for the care of afflicted children, one in memory of Mrs. Mary A. Highsmith, mother of the chief surgeon, Dr. Jarvo F. Highsmith; the other in memory of Mrs. Anna E. Bullard.

State Hospital Reports.—The biennial report of the State Hospital at Morganton shows a balance of $58 remaining from the appropriations. The number of patients in the hospital December 1 was 1,072. A per capita allowance of $145 is asked of the forthcoming legislature, and appropriations of $40,000 for a new building to accommodate 100 additional male patients, and $5,000 each for two pavilions for tubercular patients. During the biennium the hospital has been free from epidemics. Less than one-fourth of the deaths in the two years were due to some form of tuberculosis. The directors adopted resolutions testifying to their high regard for their superintendent, Dr. P. L. Murphy, and hoping that he would soon be restored to health and be able to return to his duties. ——The directors of the State Hospital at Raleigh, in their biennial report, eulogize the economical management of the hospital at the hands of Superintendent Dr. James McKee, suggest the imperative need of more land for the development of the "colony system" and report a very large amount of cures for the term. They announce the completion of a new wing which adds more than 100 beds to the capacity of the hospital.

OHIO.

Typhoid Due to Infected Milk.—The State Board of Health has investigated an outbreak of typhoid fever at Kenton and traces most of the cases to milk supplied by a single dairy, several cases of typhoid fever having occurred at the home of the proprietor. It could not be ascertained whether the milk was contaminated by water, flies, direct handling or in some other way.

Anti-Expectoration Ordinance.—The board of health of Youngstown has had prepared 100 signs which are to be posted in conspicuous places. The signs read as follows: "Don't spit on the sidewalk—Fine $2.00. Board of Health." ——The physicians of Chillicothe have adopted resolutions protesting against the habit of expectorating on sidewalks, and have begged the mayor to use his authority to enforce the ordinance against expectoration.

Hospital Notes.—During the year ended November 15, 1,301 patients were treated at the Dayton State Hospital; 246 were received during the year; 85 were discharged cured and 37 improved, and 73 died. The per capita cost for the year was $144.99.——The Emergency Hospital at Wapakoneta was opened to the public January 1. The second floor of the Hunter block has been donated for this purpose and equipped with cots, medicine and surgical instruments.

Northwestern Physicians Meet.—At the sixty-second semiannual meeting of the Northwestern Ohio Medical Association, held in Lima, December 14, the following officers were elected: Dr. William A. Dickey, Toledo, president; Drs. Solomon B. Hiner, Lima, and Martin Stamm, Fremont, vice-presidents; Dr. Edwin A. Murbach, Archbold, secretary (re-elected), and Dr. William S. Phillips, Belle Center, assistant secretary and treasurer (re-elected). The next meeting of the association will be held in Toledo.

PENNSYLVANIA.

Hospital for Inebriates.—Decisive steps are being taken by the Medical Society of the State of Pennsylvania to establish a state hospital for victims of the liquor and drug habits. A committee was appointed, which will draft a bill to be introduced in the Senate and House of Representatives.

Scranton Epidemic.—There have been 35 more typhoid fever cases reported, making a total of 996, and three more deaths have been recorded, making a total of 84. Dickson City, four miles from Scranton, reports 13 typhoid cases. The water supply there is the same as that supplied to North Scranton.

Hospital Site Selected.—Drs. Robert G. Le Conte and Henry Tucker, Philadelphia, and Henry L. Orth, Harrisburg, a committee appointed by State Health Commissioner Dixon to select a site for a state miners' hospital in the Panther Creek Valley have selected Moser's field, midway between Tamaqua and Lansford.

Agreement on Vaccination.—The health and school boards of Altoona have reached an agreement over the enforcement of the vaccination law. Instead of the health board's physician performing the third vaccination, it may be done by the family physician in the presence of the health board's physician, according to the ruling of Dr. S. G. Dixon, state health commissioner.

Hospital Notes.—It is reported that Joseph Ratti, who died recently in Italy, made ample provision for the maintenance for the hospital at Bloomsburg, which he was instrumental in founding, and which bears his name.——Braddock General Hospital has become so crowded that it has been decided to build an addition at a cost of $150,000, which will increase the capacity of the hospital from 50 to 200 patients.

Philadelphia.

Children's Ward Opened.—The new children's ward recently erected at the Methodist Episcopal Hospital was formally given to the institution last week. It has a capacity of 50 cribs and is equipped with all the modern improvements and conveniences. About $4,000 have been subscribed by charitable friends of the hospital, one donor alone volunteering to fit out 10 cribs.

Filters to be Completed.—The contract for the completion of the preliminary filters at the Belmont plant has been awarded. The work under contract consists of the construction of rough filters to scour the water so that it may be passed through the final filters at a greater rate than 3,000,000 gallons per acre per day. Slow sand filters are normally operated at the 3,000,000-gallon rate, but by prefiltration it is said that this rate can be doubled.

Hospital for Gastric Disease.—The American Hospital for Diseases of the Stomach, at 1809 Wallace Street, was formally opened January 3. The hospital has been established for the treatment of patients suffering from gastrointestinal ailments and also for the scientific study of such diseases. The hospital at present has 30 ward beds and a number of private rooms. A free dispensary, open every day, is operated in connection with the hospital.

Typhoid Epidemic.—Typhoid is epidemic in the city, according to the department of health. There have been 343 new cases recorded, an increase of 91 over last week. Dr. A. C. Abbott, chief of the bureau of health, charges the blame to the long delay in completing the filtration system. He says that the great majority of cases are reported from the unfiltered water districts. Every hospital in the city is treating typhoid fever cases, and some of them are crowded because of the great increase in the disease. This is especially true of the hospitals in the northeastern section of the city. The Episcopal Hospital has 123 typhoid patients; St. Joseph's, 30; St. Mary's Hospital, 30, and 12 are in the Frankford Hospital. All the officials agree that filtered water has accomplished a great deal in keeping the typhoid rate down to a minimum in districts where it is supplied. That this is true is shown by a comparison of the number of cases that were reported in the year just ending in the filtered and unfiltered districts. The total number of persons who contracted the disease in 1906 was 9,751, with 1,061 deaths. The best results, as expressed in figures, are found in the Roxborough filtered water districts, where the cases were only a trifle more than 2 per 1,000 of population. The total population served is 113,755. The figures relating to the unfiltered districts point unerringly to the cause of the disease. The worst of these four districts, Wentz Farm, is the only one that receives its water supply from the Delaware River at a point three miles below the Torresdale filter plant. This district, with a population of 706,713, had 12 cases to each 1,000 of population.

UTAH.

Statistic Gatherers to be Paid.—The State Board of Health announces that a bill will be introduced into the legislature providing expenses or a fee or both to be paid to the physicians of the state who gather vital statistics and report them to the State Board of Health.

Smallpox.—Smallpox is reported to be epidemic in Monroe, Sevier County, and Dr. F. E. Clark, state sanitary inspector, has been sent to make an investigation. At present there are more than 90 cases in a town of 1,800 inhabitants.——About 6 cases of smallpox are reported in Heber City. Dr. Clark reports 50 very light cases at Midway and Charleston, the entire infection having been imported from Park City.

New Medical Practice Act.—At a meeting of the legislative committee of the Utah State Medical Association, December 22, it was determined to urge the passage of a new medical practice act, which strengthens the present act where weak and provides for reciprocity in regard to the issue of license or examination. A special meeting has been called for January 16 to consider the proposed new legislation. It is hoped that there will be a full attendance of the profession.

VIRGINIA.

New Hospital for Roanoke.—Dr. T. H. Strohecker of Salem has entered into an agreement with the physicians and surgeons of Roanoke to build and equip a general hospital in that city on property secured on Campbell Avenue. Those connected with the movement are the following: Drs. Leigh Buckner, Ralph W. Brown, H. M. Wallace, Louis G. Richards, Edward C. Ambler and G. Madison Maxwell, Roanoke; Dr. John O. Boyd, Winchester, and Drs. Stuart McGuire, William S. Gordon and John Dunn, Richmond.

New Proposed Health Regulations.—The State Board of Health has passed a bill in which are incorporated the proposed new health regulations. Under the provisions of this bill each county will have a public health commissioner, appointed by the circuit judge and paid at the rate of 2 cents per annum for each citizen in the county. The state board has the power to discharge health officers who have not performed their work, and to bring action in the courts to enforce the health laws, to make sanitary inspection and surveys and to establish quarantine. The bill provides that in every county there shall be a county health commissioner and in every city a department of health and charities composed of a board of three commissioners. Under the present health law the county commissioners are members of the county board of health *ex-officio*.

GENERAL.

American Physio-Therapeutic Association.—Physicians who are interested in the study and legitimate practice of the physical (drugless) therapeutic methods, notably electrotherapy, phototherapy, mechanotherapy, hydrotherapy, suggestion and dietetics, are invited to join the American Physio-Therapeutic Association. Particulars may be secured from the secretary, Dr. Otto Juettner, 8 West Ninth Street, Cincinnati. The other officers for the ensuing year are: President, Dr. H. H. Roberts, Lexington, Ky.; treasurer, Dr. George H. Grant, Richmond, Ind.

Ohio Valley Physicians Meet.—The Ohio Valley Medical Association, at its eighth annual meeting in Louisville, November 14 and 15, urged the legislature to show its recognition of the deviser of ovariotomy, Dr. Ephraim McDowell, Danville, by taking steps to have his statue placed in the Hall of Fame. The following officers were elected: Dr. Brooks F. Beebe, Cincinnati, president; Drs. J. Leaming Wiggins, East St. Louis, Ill., Curran Pope, Louisville, and Albert E. Sterne, Indianapolis, vice-presidents, and Dr. Benjamin L. W. Floyd, Evansville, Ind., secretary (re-elected). The association decided to hold its 1908 session at Evansville.

Seaboard Medical Association.—The Seaboard Medical Association held its eleventh annual meeting at Wilson, N. C., December 13 and 14. Dr. Albert Anderson, Wilson, presided in the absence of the president, Dr. John C. Rodman, Washington. Dr. Robert L. Payne, Norfolk, Va., was elected president; Drs. Julian M. Baker, Tarboro, N. C., Philip St. L. Moncure, Norfolk, Va., and E. Thomas Dickinson, Wilson, N. C., vice-presidents; Dr. John R. Bagby, Newport News, Va., secretary (re-elected); Dr. Israel Brown, Norfolk, Va., treasurer; Dr. Isaac W. Lamm, Lucama, N. C., orator. The session of next year will be held in Norfolk, Va.

Psychopathologist and X-Ray Operator Wanted.—The Cook County (Ill.) board has created the position of psychopathologist for work at Dunning and will also appoint an *x*-ray operator for the Cook County Hospital. Both of these positions, as announced in Illinois news last week, page 145, are open to all competent men. The first position carries with it a salary of $2,400 a year and that of the *x*-ray operator $900, in addition to maintenance in both cases. The examination for psychopathologist takes place February 12, instead of the date mentioned last week. The examination for the *x*-ray operator will be held January 23. Applications must be filed with the Civil Service Commission, room 312, 218 La Salle Street, Chicago, before the date of examination.

Congress on Dermatology to Meet.—The sixth International Dermatological Congress will meet in New York City Sept. 9 to 14, 1907. THE JOURNAL has noted from time to time the progress of preparations for this convention. The Section on Cutaneous Medicine and Surgery of the American Medical Association has had its part in the invitation and preparations. The following physicians compose the organization committee for America:

John T. Bowen, Boston.
Andrew P. Biddle, Detroit.
Edward B. Bronson, New York.
L. Duncan Bulkley, New York.
R. R. Campbell, Chicago.
William T. Corlett, Cleveland.
I. Dyer, New Orleans.
George T. Elliot, New York.
Martin F. Engman, St. Louis.
John A. Fordyce, New York.
George H. Fox, New York.
Thomas C. Gilchrist, Baltimore.
W. S. Gotthell, New York.
Milton B. Hartzell, Philadelphia.
J. Nevins Hyde, Chicago.
George T. Jackson, New York.
Sigmund Lustgarten, New York.
D. W. Montgomery, San Francisco.
Prince A. Morrow, New York.
William A. Pusey, Chicago.
Francis J. Shepherd, Montreal.
Henry W. Stelwagon, Philadelphia.
Grover W. Wende, Buffalo.
James M. Winfield, Brooklyn.
Joseph Zeisler, Chicago.

Further information may be obtained from the American secretary-general, Dr. John A. Fordyce, 80 West Fortieth Street, New York City.

CANADA.

Vital Statistics of St. John, N. B.—During 1906 the total number of deaths occurring in St. John, N. B., was 775, as compared with 762 in 1905. Ninety deaths were caused by tuberculosis. There were 472 cases of infectious diseases, with 44 deaths.

Doctor's Name Must be Restored to the Ontario Register.—The courts have ordered that the name of Dr. Alexander Crichton, Castleton, Ontario, shall be restored to the register of the Ontario College of Physicians and Surgeons, whence it was removed last summer for alleged unprofessional conduct. Dr. Crichton having advertised a cure for la grippe, which would also cure other diseases.

Manitoba's Health in 1906.—There were 1,160 cases of typhoid fever in Winnipeg in 1906, as against 1,406 in 1905. The deaths were 109. In other points in Manitoba the deaths from this disease numbered 266. Only 12 cases of smallpox occurred in the province during the year, 7 of these being in

Winnipeg. Dr. Leeming, Winnipeg's bacteriologist, made 6,314 tests in 1906; of this number 1,561 were diphtheria swabs, and 458 sputa for tubercle bacili. The blood tests for typhoid fever numbered 511.

Typhoid Fever in Montreal.—There are about 1,000 cases of typhoid fever in Montreal and the immediate surrounding municipalities. The bad quality of the Montreal drinking water is the cause. Two young practitioners have succumbed to the disease within the past week. Hospitals are full and nurses are very much in demand. Dr. E. Pellitier, secretary of the provincial board of health is investigating the outbreak and will shortly make a report thereon. Dr. L. Laberge, Montreal, municipal health officer, states that the cases have originated in three wards of the city.

Personal.—Dr. R. E. McConnell, son of Dr. J. B. McConnell of Montreal, is visiting his father, on his return from the west coast of Africa, where for the past two years he has been studying blackwater fever, at the instance of the Liverpool School of Tropical Medicine. After a few weeks in Canada, Dr. McConnell will return to Africa and continue his studies.——Dr. Ernest A. Hall, Victoria, B. C., is a candidate in the interests of the Canadian Labor Party in the British Columbia legislative elections.——Professor Ernest Rutherford, McGill University, Montreal, is to succeed Professor Schuster as Langworthy professor and director of physical laboratories at the University of Manchester, England.

More Money for War on Tuberculosis in Canada.—The Canadian Association for the Prevention of Tuberculosis recently waited on the prime minister, Sir Wilfrid Laurier, and the finance minister, the Hon. Mr. Fielding, asking for a grant of $5,000 in order the better to prosecute the work of preventing the spread of tuberculosis in Canada. The federal government now votes $2,000 annually for the purpose. The finance minister stated that what they would do in the matter would later on appear in the estimates for the coming financial year. ——The urgent need of a consumption sanatorium for Montreal was the chief item discussed at the recent annual meeting of the Montreal League for the Prevention of Tuberculosis. The cases reported this year to the society numbered 256 as compared with 244 last year.

Medical Societies.—The following have been elected officers of the Thunder Bay Medical Association: Hon. President, Dr. T. S. T. Smellie, Fort William, Ont.; president, Dr. C. J. H. Chipman; vice-president, Dr. H. E. Paul; secretary, Dr. J. D. Chisholm; treasurer, Dr. J. A. Crozier; executives, Drs. J. M. McGrady and C. E. McCartney.——The Hamilton Medical Society held its annual meeting December 7, when the following officers were elected: President, Dr. Ingersoll Olmsted; vice-president, Dr. Storms; corresponding secretary, Dr. Davey; recording secretary, Dr. Hess; treasurer, Dr. McNichol. ——The London (Ont.) Medical Society held its annual meeting December 11. The following officers were elected for the ensuing year: President, Dr. E. Seaborne; vice-president, Dr. W. J. Stevenson; secretary-treasurer, Dr. U. E. Bateson.——A new medical society has been formed in Goderich, Ont.

Personal.—Dr. McNaughton of the London (Ont.) Provincial Hospital has been transferred to Mimico.——Dr. George W. Badgerow, formerly of Toronto, has gone to London, Eng., to practice.——Dr. W. H. Lowrey, formerly of Guelph, Ont., has commenced practice in Toronto, after postgraduate work in Europe.——Dr. F. L. Grasett, Toronto, has been elected by acclamation to represent the graduates in medicine in Trinity College council.——Dr. Neil McPhatter, New York, president of the Canadian Club of that city, visited Toronto recently. ——Drs. Arthur Rosseau, Montreal, and C. S. Grondin and Arthur Simard, Quebec, have been elected officers of the French Academy by the government of France.——Dr. Charles Hodgetts, secretary of the Ontario Board of Health, announces that if Ottawa, Ont., decides to erect a sanatorium for consumptives the Ontario government will contribute $4,000.—— Dr. J. L. Potter, formerly of Glenwood, N. F., has gone to London, Eng., to study.——Dr. H. E. Langis, Vancouver, B. C., has gone to the south of France for several months.

Hospital News.—During 1906 50,441 patients were treated at the Montreal General Hospital, 3,459 in the wards and 46,982 in the outdoor departments. During December 279 patients were admitted and 253 were discharged. There were 27 deaths in the month, 16 of which occurred within three days of admission.——The management of the Western Hospital, Montreal, has appealed to the public, asking that assistance be granted to complete the new hospital building which is to cost $60,000.——The annual meeting of the St. Catherines (Ont.) General and Marine Hospital Association was held December 27, when plans were considered for a new hospital building to contain 60 beds.——Edmondton, Alberta, is to erect a new hospital to cost $75,000.——Fort William, Ont., is considering the erection of a new hospital to cost $40,000. ——The Isolation Hospital in connection with the Vancouver (B. C.) General Hospital has been completed.——The Alexandra and St. Paul's contagious hospitals, Montreal, are requesting the Montreal city council to increase the annual grants from $15,000 each to $30,000 each.

FOREIGN.

Compulsory Notification of Tuberculosis in Scotland.—At a meeting of the Edinburgh town council Dec. 18, 1906, it was resolved to make the notification of tuberculosis compulsory. It is estimated that the cost to the city will be about $1,500 a year.

Collection of Medical Medals and Coins.—The heirs of Dr. J. Brettauer of Trieste, have presented to the Vienna university the valuable and unique collection of medical medals and coins which he had been gathering for years. They presented with it a small endowment for the maintenance and enlargement of the collection.

Herman Cohn's Bequests for Prizes in Ophthalmology.—The universities at Heidelberg, Berlin and Tübingen have each received 10,000 marks ($2,500) from the estate of the late world renowned ophthalmologist, Herman Cohn of Breslau. The income from each endowment is to be awarded as a prize for research in ophthalmology.

Dentist Appointed for Public Hospital.—The new Rudolf Virchow Hospital at Berlin has had a dentist added to the working force. It is said to be the first time in Berlin and probably in Germany that dentistry has been added as a feature of hospital treatment. M. Carow, the official medicolegal expert, is the first dentist to be appointed to the position.

Postponement of Third Latin-American Medical Congress.—The third medical congress and exhibition of the Latin states of Southern and Central America was to have convened at Montevideo, January 13, but the date for the opening has been postponed to March 17. Uruguay has been making extensive preparations for the congress, having enlarged the scope of the exhibition to include everything bearing on public health, hygiene, forestry, protection of land, and the problems of sanitation of cities, etc.

Index to Russian Medical Literature.—According to its annual custom for twenty-one years, the *Med. Obozrycnie* of Moscow presents in one of its last issues for 1906 (No. 22), the complete index of all the current medical literature in the Russian periodicals for the year before, 1905. It is indexed by subjects, with the names of the authors in black letter type, and will be found valuable for bibliographic references. The literary output in Russia is large, but the more important works are generally published in some journal in western Europe simultaneously with their publication in Russian.

Death of a Valiant Anti-Nostrum Agitator.—THE JOURNAL has mentioned from time to time the warnings issued by the mayor and board of health of Carlsruhe, Germany, in regard to nostrums advertised in the local papers. The public is informed in regard to the composition of the remedy, and warned against paying the excessive price usually charged for what costs, as a rule, only a few cents to manufacture. The warnings and notices were collected and published in book form in 1905 (G. Braun's Verlag, Carlsruhe), the pamphlet containing 148 pages with notices in regard to 254 different nostrums or "cures." (Warner's Safe Cure is included in the list.) Few boards of health are so ably seconded by the municipal authorities as at Carlsruhe, and the profession learns with regret of the death of the mayor of the city, Oberbürgermeister Schnetler, at the age of 60. There was no official board of health when he first assumed office, and its organization was due in large part to his encouragement.

The Vienna Volunteer Emergency Corps.—Vienna has had for twenty-five years an organized system of medical and trained lay helpers and ambulances for first aid in cases of accidents, suicides and other emergencies. More than 14,000 persons have attended the practical courses in first aid in emergencies, and the service now has an official enrollment of 21 physicians, 6 clerks, 18 drivers and 8 attendants, besides the trained lay help. The service was organized immediately after the burning of the Ring Theater at Vienna, where about 800 persons lost their lives, many of whom, it was felt, might have been saved if first aid measures had been available. The Vienna corps has served as a model for others elsewhere, and

its silver jubilee was celebrated recently with much ceremony. It has received many donations and bequests, so that the service is being constantly extended and an emergency hospital is now contemplated. The record has averaged about 80 cases a day with a total of 17,000 cases in which first aid measures were required.

Imposing Public Monument to Rubio at Madrid.—The *Siglo Medico* for December 15 contains a full page illustration of a monument recently unveiled by the king at Madrid to the memory of the eminent Spanish surgeon, physician, and medical journalist, F. Rubio. The monument stands in a public square, opposite the surgical clinic and institute which he founded. He is represented seated at ease; his flowing beard and the academic robe thrown across his knees enhance the dignity of the large figure. A low balustrade around the back of the platform bears engraved in large letters two rows of names of the most illustrious members of the profession in Spain in his day—1827-1902—as if he were presiding at a meeting. He holds a scalpel and bistoury in one hand, and a pen in the other, while some of his published works lie at his feet. On the broad steps leading up to the platform is a female figure in flowing robes, bearing an infant in her arms, with an older child by her side, typifying Humanity, and the generations yet to come. The monument is of marble, but the group on the steps is of bronze, symbolical of eternal admiration. Rubio was the founder and editor of the *Revista Ibero-Americana de Ciencias Medicas*, a large and handsome illustrated medical and surgical quarterly. The initiative for erection of the monument came from A. Pulido, one of the editors of the *Siglo Medico*, who was also instrumental in having a bust of Benavente, another prominent member of the profession, placed not long ago in another public square.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Dec. 15, 1906.

Conference on Hospital Abuse.

An important conference, the first of its kind, on what has been long felt in the profession to be a growing evil, hospital abuse, was held in London, Dec. 6, 1906. The chair was taken by Sir William Church, and there was a large attendance of hospital representatives from all parts of the United Kingdom. Out of 272 hospitals asked to appoint delegat s, 149 did so, the number appointed amounting to 180. Fifty-six hospitals have the matter still under consideration, and 29 stated that they do not propose to take action. The chairman said that the present conditions in our great hospitals are unsatisfactory. On the one hand hospitals appeal for funds to support their work, and on the other, there is a widespread feeling that there are many evils connected with hospital practice. The out-patient system as now carried on is different from that intended by those connected with hospitals during the last 60 to 80 years. As early as 1682 Bartholomew's Hospital had to face the question of the growth of out-patients, and since then the question has been a burning one. Now the difficulty has become greater from its extreme complexity. He deprecated many of the appeals made by hospitals for funds which are far from dignified. What is wanted is coöperation between the hospitals, not competition. The majority of the medical men feel that there is a grievance in connection with hospital relief. Sir William Church has always been struck with the difference between the relation formerly existing between the family physician and the heads of families, and that relation now. Formerly the family physician treated the domestic dependents of the family. Now they are sent to a hospital, generally to a special hospital, although the patient is suffering from a disease which might as well have been treated in a general hospital. A resolution approving of the principles welcoming further consideration of the principles contained in the proposals drawn up by the Joint Hospitals Committee was carried unanimously.

Heavy Damages for Impure Drinking Water in a Hydropathic Establishment.

An action was brought by a woman against a physician, proprietor of a hydropathic establishment at Great Malvern, for damages for loss and expenses incurred by her, owing to breach of warranty and negligence of the defendant in warranting that the drinking water of his establishment was pure and fit for drinking purposes, whereas it was contaminated with sewage, by drinking which she and her two sons contracted typhoid fever. The physician denied negligence which caused the damage, but admitted breach of warranty, and paid $6,250 into court. The plaintiff went with her two sons, who were at Eton, to the defendant's establishment, and contracted typhoid fever, from which one son died and she and the other son were ill for a long time. The plaintiff contended that she owed a duty to others, and that the case ought to be investigated. An arrangement was come to between the parties by which the defendant paid all the expenses of the plaintiff and all costs as between solicitor and client. Counsel for the defendant told his client that he was liable on a warranty, however careful he had been to avoid the damage which the plaintiff had suffered. The defendant contended that he was not responsible at all, and that the damage was owing to negligence of the local health authorities, against whom he is now bringing action.

Enforcement of Test Examinations of the Throats of Children for Diphtheria Bacilli.

Throughout the past summer difficulties have arisen during the prevalence of diphtheria in various London districts from physicians giving certificates of freedom from infectiousness in children who at the time are carriers of diphtheria. The matter was discussed at a meeting of the Metropolitan Branch of the Incorporated Society of Medical Officers of Health. A resolution was passed declaring that it is not possible in the absence of a bacteriologic examination to decide that a child is free from the infection of diphtheria, and that in the event of the prevalence of diphtheria in any district, any child excluded from school for sore throat should not be re-admitted without a medical certificate of freedom from infection based on a bacteriologic examination. Since then, the London County Council has decided to require such examination. However, in informing the health officers of the metropolis of this fact, the educational medical officer of the council states that he knows of several cases of "carriers" where physicians have within a few hours submitted swabs to various laboratories with negative results. The council has issued cards to teachers, who will give them to children sent home from school. These cards state the reason why the child is excluded and that it is necessary before it is re-admitted that a bacteriologic certificate be obtained from the family physician or from the health officer, which the latter will give without cost.

Fifth Interim Report from the Expedition on the Congo of the Liverpool School of Tropical Medicine.

Like the other reports of the expeditions of the Liverpool School of Tropical Medicine, this one contains much valuable information. It is written by the members of the expedition, Drs. J. E. Dutton and J. L. Todd, with the collaboration of Mr. R. Newstead. While on the expedition Dr. Dutton contracted recurrent fever, to which he succumbed. In 1904 Dr. Dutton and Dr. Todd reported that they had discovered a spirillum to be the pathogenic cause of human tick fever in the oriental part of the Congo Free State, and that they had infected monkeys with spirilla through the bites of ticks. The disease in man they found to be a relapsing fever. The spirochete responsible for it appears to be identical with the *Spirillum obermeieri* of the relapsing fever known in Europe. In one experiment they succeeded in transmitting to another animal the spirillum by the bites of young ticks hatched in the laboratory from eggs laid by infected parents. In the present report the history of human tick fever in the oriental province of the Congo Free State is well described. It appears that the great explorer, Livingstone, suffered from annoyance by ticks while at Nyangwe in 1871. But the fact that ticks communicated this disease to man was unknown before the investigations of the expedition. Natives who said they were ill from the bites of these insects were thought to be malingering, and "tick fever" was confounded with malaria. It seems that one attack of tick fever confers immunity. In those well cared for the mortality is not great. The incubation period from the bite to the first symptoms is about a week. However, symptoms are said sometimes to follow within a few hours. The fever is of sudden onset and in no case preceded by a rigor, differing from the onset of relapsing fever in colder climates. There are great prostration, severe backache, bone ache and headache, usually frontal. Slight diarrhea is fairly constant. Here, again, the symptoms differ from the relapsing fever of cold climates, in which the vomiting may be incessant and constipation is the rule. There are usually three or four attacks, each lasting from three or four days, with intervening periods of from five to nineteen days. The attacks often end in more or less profuse perspiration. The spleen is sometimes enlarged. The complications observed were herpes, epistaxis and hiccough. Although there is great prostration during the attack, comparative health is quickly regained after defervescence. The authors also describe the disease in animals—the rabbit, guinea-pig, rat and monkey.

Pharmacology

Physicians and the Food and Drugs Act.

The provisions of the new Food and Drugs Law have excited interest among druggists and among the manufacturers of proprietary medicines, especially among the smaller firms making the so-called "patent medicines." Many queries as to the interpretation of the law have been addressed to the Department of Agriculture and have been answered in a way which indicates the policy of the department, although these answers are merely opinions that do not have the force of law. Some of the opinions which have been published are of interest to physicians, although few of the regulations affect them directly. Preparations manufactured according to the formula for well-known proprietaries such as Godfrey's cordial, and sent out with a fac-simile of the original circular wrapped around them, must state that the circular is a fac-simile of the original circular. If the circular contains unwarranted claims as to the cure of any disease it will conflict with the law. The appearance of the word "cure" on the label would in practically every case constitute misbranding through misrepresentation. "A picture conveying an idea which can not be borne out through the use of the medicine is not permitted." The manufacturers of proprietary preparations are not required to disclose their formulas, but must comply with the law in regard to the presence of alcohol and other designated drugs.

The questions asked indicate considerable anxiety in regard to the requirement to label the preparation with the amount of alcohol, etc. The name of the alcohol or other designated ingredient must be put first and printed in eight-point capitals. The percentage of alcohol must be stated and the amount of other drugs must be given in grains per ounce or minims per fluid ounce. Some manufacturers are afraid that the name alcohol may prejudice people against the preparation and ask if they may not substitute cologne spirits, grain alcohol or some other synonym. The answer given to this query by Dr. Lyman F. Kebler is: "The law uses the word 'alcohol' and no other word will be permitted to express the quantity of this product present."

The amount of alcohol in the finished product must be stated irrespective of whether it is introduced as alcohol or as a constituent of some other ingredient used in making the medicine. The presence of wood spirit or methyl alcohol is not permitted. The law applies to external as well as internal remedies. Remedies used for the eradication of lice and similar vermin are subject to the provisions of the law, according to Kebler, who says: "Lice and similar vermin are classed among the parasitic diseases by medical men." According to Secretary Wilson, hair tonics, cold cream, tooth powders and dentrifices, and also those soaps, preparations of bay rum and of talcum powder for which claims of curative power are set forth on the labels, must comply with the law. Names such as "castor-oil pills" or "cactus oil" applied to preparations which do not contain these ingredients are in conflict with the law. "Liver berries" or other name of an article that does not exist can not be used on the label even with the addition of the word "compound" as a part of the title. A preparation put out as "mandrake pills" must not contain other active ingredients, but a preparation may contain other ingredients if the word "compound" be added as part of the title. In such a preparation the ingredient which gives the distinctive name "shall be an active constituent of the mixture and shall be present in as large a proportion as any other active medicinal constituent. For instance, the term 'compound savin oil' may be applied to a mixture of 50 parts of savin oil and 50 parts of French turpentine, or equal parts of savin oil, oil of spike and French turpentine. Moreover, the term shuld be used thus: 'Compound savin oil' and not 'savin oil compounded.'"

A label which contains the name of a physician is improper unless a physician of that name has really some connection with the remedy. Thus "Dr. Koch's German Cure" must be German in some sense, and Dr. Koch must have been at some time connected in some way with the preparation.

It is impossible to say what effect these regulations will have on the sale and use of "patent medicines," but it would seem that the more vicious of these remedies ought to be at least greatly restricted in their power to do harm. The physician will have it in his power to learn whether his patients have been taking narcotics under this guise and to point out to intelligent patrons the danger in their indiscriminate use.

Some other regulations affect the physician somewhat more directly. Whisky or brandy sold as medicine must conform to the standard prescribed by the Pharmacopeia and must be at least four years old. It is not misbranding to use common English terms for preparations of the Pharmacopeia as Epsom salts for magnesium sulphate.

There has not been any ruling relative to caramel, glucose, saccharin, etc., in connection with pharmaceutical preparations, but their use in any way that might mislead or deceive (or so as to conceal deficiencies or defects in quality or strength) is forbidden.

If a coating purports to be chocolate—and, as is frequently the case, contains no chocolate—the statement that the pills or tablets are chocolate coated will be deemed misbranding.

In case a prescription calls for Squibbs' or Parke, Davis & Co.'s Ergot, or Fairchild Bros.' Essence of Pepsin, or Sharp & Dohme's Fluid Extract of Digitalis, it will be considered a violation of the law to substitute some other make.

Nostrums in Great Britain.

The London *Lancet* is publishing a series of articles on "The Trade in Secret and Proprietary Medicines" by a barrister-at-law. In these articles the writer refers specifically to certain proprietary preparations that are being advertised to physicians, in a way that is not to the credit of the preparations, on the contrary the comments are of such a nature as to injure their sale, at least on physicians' prescription. The same tactics were adopted by the injured parties as have prevailed on this side, as will be seen by the following from the *Lancet*, December 1:

"We have received from several manufacturers copies of an anonymous communication which has been addressed to them with reference to the previous articles of this series. It has been printed in imitation of typewriting and probably has been distributed broadcast. It runs as follows:

"Have you seen the attack on Owners of Trade Marks and Proprietary Articles in the *Lancet* of November 17, pp. 1390, 1391, 1392? Is this calculated to induce Advertisers to continue their Advertisements in this Journal?

"We will answer this amiably intended question from our point of view. These articles constitute no attack whatever. They are legitimate criticism of an existing state of affairs with which some people may agree and in which others may see dangers. The persons likely to suffer from the publication of the articles are not those of our advertisers to whom these anonymous communications have been addressed—as they have perceived. Every journal which keeps a conception of its public duties before it has to recognize—at any rate in this country—that criticism honestly and carefully directed at all the various phases of contemporary life must sometimes fall on individuals or classes whose advertisements actually help to swell the revenues of the journal. We invite our anonymous friend to come out of his shell (whence we could extract him in five minutes if we thought it worth while) and to indicate to the medical world what course he, as a proprietor or an editor, is taking, or is prepared to take, in respect to the advertisements of reputable firms. Would he suggest that all public policy must be shaped for him by his advertisers, and does he think that honorable manufacturers expect and desire this? We appeal to our critic's pocket as an inducement for him to take to the open. There are certain kinds of advertisers who would be glad to know where they can obtain not only publicity in the advertisement columns, but nothing save praise from the editorial pen."

The Multiplicity of Names for Identical Preparations.

In an article on synthetics in the *Journal of the Michigan State Medical Society*, Dr. J. O. Schlotterbeck, Ann Arbor, says: "Suppose some genius conceived the plan of placing on the market common cane sugar under the name of 'sugarine,' and advertised it in most glowing terms as the most wonderful sweetener the world ever knew at a price of $1.10 a pound. Another, quickly recognizing the credulity of the public, exploits cane sugar as 'sweetol,' and makes additional arguments why it should be used in preference to others, and sold at 75

cents per pound. Another places 'Ducitol,' at 50 cents per pound, and, finally, an honest dealer offers the same article at 5 cents per pound as 'saccharum' or sugar. What would you think of the cook who would use several of these brands of sugar in making your pastry? An exactly similar condition exists in medicine to-day. The pharmacopeial synthetic hexamethylenamina is on the market to-day under the name urotropin, cystogen, aminoformin, formin, uritone, urisol, cystamin and so on, at prices ranging from 10 cents to $1.10 per ounce. It is not uncommon for physicians to prescribe one or more of these fancy-named, but identical synthetics in the same mixture, expecting to get the combined action of different urinary antiseptics. It is also true that patients have been treated first with hexamethylenamina under one name and then with the same article under another name, in the expectation that looked-for results will finally manifest themselves.

"By prescribing hexamethylenamina, the physician receives an article that is uniform and whose purity and quality can be controlled by the tests of the Pharmacopeia. Besides that, he is then not a party to the fostering of a graft, which is possible by prescribing the same article under a fancy-registered name and sold at a price ten-fold greater than the pharmacopeial article. Surely, no physician wishes to inflict an unnecessary hardship on himself, or pharmacist or patient."

The Control of Proprietary Remedies in France.

The inability to control the purity and identity of the numerous new chemicals introduced into medicine, many of them of a proprietary character, has led the French Pharmacists to propose the establishment of a central laboratory to test these drugs.[1] The Paris Pharmaceutical Society appointed a committee in 1904 which, after considering various remedies, decided in favor of the simpler plan proposed by the Swiss pharmacist, Golaz: That manufacturers should be requested to furnish with each package of the compounds which they manufacture, data relating to (a) the name and exact chemical synonym. (b) Tests, establishing identity. (c) Melting and boiling point. (d) Solubility. (e) Incompatibilities. (f) Dose. (g) Precautions to be taken to sterilize and keep the substance. A letter embodying these requests has been addressed by a committee of the Swiss Pharmaceutical Society to the various manufacturers and similar action has been taken by various foreign pharmaceutical societies and the Pharmaceutical Society of Paris has, in response to invitations from these societies, taken the action to which it committed itself two years ago in accepting the report of its committee. It will be noted that the data called for are essentially similar to those which are required by the Council on Pharmacy and Chemistry of the American Medical Association.

Work of the Minnesota Dairy and Food Commission.

Bulletin No. 20 of this commission gives an account of some of the work done on "patent medicines" "for the purpose of demonstrating the great need of an adequate law governing the manufacture and sale of these products. The department does not condemn all 'patent medicines' *per se*, but there are so many fraudulent and injurious 'dopes' on the market, that radical measures should be adopted by the legislature of this state to compel manufacturers who use certain ingredients, at least to make a plain statement of facts on the label."

Reports, more or less complete, of the analysis of a number of preparations are given. The preparations examined included so-called dyspepsia cures, cough and consumption cures, cholera and diarrhea remedies, and bitters and tonics of various names. These show from 10 to 50 per cent. of alcohol present in the samples examined. Codein, croton oil, chloroform, morphin, salicylic acid and strychnin were among the powerful drugs found in the various preparations.

It is encouraging to see official scientific bodies like the Minnesota dairy and food commission taking up this subject, and it is to be hoped that this beginning will be followed by prompt action by the legislatures not only of Minnesota, but of other states as well.

1. Bulletin de la Societé de Pharmacie de Bordeaux, Oct., 1906.

Correspondence

The Venereal Peril.

WILMINGTON, DEL., Dec. 23, 1906.

To the Editor:—Anent your editorial on "The Venereal Peril" in THE JOURNAL, December 22, I might relate my experience along the line of "education." About four years ago I delivered before the students of our state college two lectures on venereal diseases. The lectures were attended by all the students and listened to very attentively. When the first lecture was delivered, the students, eager for unsavory information, crowded the lecture room. Expectation of "fun" was written on every face, and it seemed that all were prepared to make the most of the occasion of listening to utterances which they can enjoy only among themselves. As the lecture progressed, however, the expression became more and more serious, and, when the dangers lurking in gonorrhea and syphilis were unraveled, many a face turned pale and many a listener became thoughtful. Vice was presented to them in its natural aspect shorn of all its seductive mysteries, and the decent boy was horrified. So wholesome was the effect of this lecture that the Young Men's Christian Association of the college asked me to repeat it before them. Whether these lectures influenced the morals of the students I do not know, but I do know that the information imparted served as a deterrent to many a boy who hitherto considered gonorrhea as something "not worse than a cold," and syphilis as a readily curable chancre.

This winter I received a request from the Young Men's Christian Association of Delaware College to deliver a series of lectures on venereal diseases before the student body. I delivered two lectures, one on the anatomy, physiology and abuses of the sexual organs, and the other on venereal diseases and the social evil.

The way in which these lectures were received makes me ask: Why should not this be done in every institution where boys and girls are instructed? Surely there is not a state or city in which some physician is not competent to take on himself this missionary work. A. ROBIN, M.D.

The Phyletic Factor in Cancer.

CHICAGO, Jan. 4, 1907.

To the Editor:—The zealous search for a parasite in cancer tends to obscure the obvious phyletic factor, illustrated in its distribution and clinical course.

The oldest of the three embryonic layers (epiblast) produces the epithelium of the skin, the central nervous system, and later the anus. The second layer (hypoblast) produces the epithelium of the alimentary canal and associated glands. The last and intermediate layers (mesoblast) produce the connective-tissue structures and the reproductive organs. The mesoblastic tissues complete their development after puberty.

The malignancy and frequency of cancer seem to vary directly with the phyletic age of the various organs, being least in the earliest, greatest in the latest organs. Thus carcinoma is notoriously frequent and malignant in the breast and uterus. The breast, a specialized skin gland, appears with the mammals; the completely fused uterus with specialized cervix appears in the apes—both therefore among the latest organs. Cancer of the skin in general is notoriously benignant compared with that of the breast; cancer of the Fallopian tubes and the vagina (ancient parts of the Müllerian duct) is far less malignant and frequent than that of the uterus. Of the urinary organs the bladder appears first in the amphibians; vesical cancer is more frequent and malignant than the same disease in the more ancient ureter and kidney. In the digestive tract the anus, stomach and large intestine are more liable to carcinoma than the more ancient small intestine. In the male genital tract the prostate, highly specialized in mammals, is the most frequent seat of carcinoma.

The chromatin arrangement in cancer cells, identical with that of genetic cells, also indicates the persistence of reproductive power. The only dynamic agent as yet demonstrated

to possess the power of destroying cancer cells—the Roentgen ray—also destroys the genetic cells, spermatozoa and ova, in the persons of those much exposed to its action. A further argument is found in the normal secretion of metastatic cancer cells, illustrated in the cases where removal of the thyroid for cancer has been followed by cretinism, and this in turn cured by the secretion of secondary thyroid cancers developing elsewhere.

These and similar data indicate that the origin of cancer is genetic rather than parasitic. This conception is further supported by the familiar influence of continued irritation in the origin of cancer; illustrations are found in the pipe cancer of the lip, the scrotal cancer of the English chimney-sweep, in the 201 cases of penile cancer among uncircumcised Hindus in the Madras Hospital, against none among equally numerous but circumcised Mohammedans (both races being equally susceptible to cancer in other parts); by the virtual limitation of skin cancer to the unprotected face and hands (practically unknown in the scalp, protected from sun and wind by the hair); and by many other familiar clinical data. The hyperemia induced by chronic irritation must favor cellular activity.

Such data, while not irreconcilable with a parasitic, strongly suggest rather an intrinsic cause of cancer.

WILLIAM T. BELFIELD.

The Intermediate Host in Ainhum.

PHILADELPHIA, JAN. 9, 1907.

To the Editor:—Thinking that it can not fail to be of interest to many readers of THE JOURNAL, I send you the following excerpt from a letter sent to the American Society of Tropical Medicine, and read at the last meeting of the Council:

BENGUELLA, ANGOLA, W. AFRICA, Oct. 24, 1906.

You will be glad to hear that I have completed my investigation on the life history of *Filaria perstans*. I believe I have demonstrated that the tick, *Ornithodoros moubata*, Murray, plays the same rôle for *perstans* that the mosquito does for *nocturna*, carrying the parasite from man to man by its bite. Perhaps you would like to announce this discovery for me at the next meeting of the society. It will be announced in Paris, Berlin and London. I am publishing a preliminary note on the subject, but just where I do not know yet as I have sent it to my friend Low of London, who helped me during the course of the work with much valuable advice and criticism.

F. CREIGHTON WELLMAN.

As there will be no meeting of the society until March, it seemed best to give Dr. Wellman whatever advantage might arise from an earlier publication of his discovery.

JOSEPH MCFARLAND, M.D.

Secretary of the American Society of Tropical Medicine.

"Operated."

CHICAGO, Jan. 14, 1907.

To the Editor:—In an editorial in THE JOURNAL, Jan. 12, 1907, you draw attention to the improper employment of the verb "to operate," without, however, referring to an article published in THE JOURNAL some twelve years ago (March 9, 1895, page 352) on "The Improper Use in Medical Literature of Certain Words and Phrases." In that essay you will find the objectionable use of "operate" discussed at length—as well as several other improprieties of the kind. Members of a learned profession like ours can hardly afford, even in a careless moment, to encourage the use of expressions that are notoriously incorrect and for which there is no lingual demand.

CASEY A. WOOD.

Marriages

GEORGE E. TUCKER, M.D., to Miss May Heller, both of Riverside, Cal., January 1.

PAUL T. HOPE, M.D., to Miss Harriet Clawson, both of Mercer, Pa., December 27.

GEORGE W. TAPE, M.D., to Miss Emma Langenhagen, both of Arrowhead, Cal., recently.

BERNARD H. NICHOLS, M.D., to Miss Myrtle E. Smith of Ravenna, Ohio, January 1.

HENRY A. LEAMING, M.D., to Miss Mable Johnson, both of Crestline, Kan., December 19.

T. A. BRYAN, M.D., Lerna, Ill., to Miss Vivian Hadley of Plainfield, Ind., December 25.

EDWIN MURBACH, M.D., Archbold, Ohio, to Miss Maude Eastman of Ottawa, Ohio, January 1.

HENRY BROWSE, M.D., to Miss Georgia Clark, both of New Martinsville, W. Va., December 29.

EDWARD C. WINANS, M.D., Chicago, to Miss Lona Luena Fancher of Hammond, Ind., recently.

HARLEY H. EMERSON, M.D., Gratis, Ohio, to Miss Bess Ewalt of West Alexandria, Ohio, December 24.

JAMES LUTHER CHURCH, M.D., to Miss Mary Priscilla Kellogg, both of De Kalb, Ill., December 25.

THOMAS WALTER CURRY, M.D., to Miss Ethel King, both of Streator, Ill., at Ottawa, Ill., January 3.

ROBERT LEE RAMEY, M.D., El Paso, Texas, to Miss Cornelia Allen Hill of Henderson, Ky., January 9.

JOSEPH J. DUNN, M.D., Cleveland, Ohio, to Miss Regina Marie Moran of Oil City, Pa., January 2.

FREDERICK A. STOKES, M.D., Indianapolis, Ind., to Miss Zoe Jackson of Washington, Ohio, January 1.

EDWIN H. MCMILLAN, M.D., Redondo, Cal., to Miss Marie Mattison, at Pasadena, Cal., December 25.

JULIUS FERDINAND MAUERMANN, M.D., to Miss Barbara Luchsinger, both of Monroe, Wis., December 31.

CHARLES T. WALL, M.D., to Miss Arminda Murphy, both of Washington, Ind., at Louisville, Ky., December 22.

SAMUEL A. LEINBACH, M.D., Quakertown, Pa., to Miss Lillian Souder of Allentown, Pa., at Reading, Pa., January 1.

THEODORE C. LYSTER, captain and assistant surgeon, U. S. Army, to Miss Lula L. Withenbury of Glendale, Cincinnati, January 10.

Deaths

Henry Watson Dudley, M.D. Harvard University Medical School, 1864; a practitioner of Abington, Mass., for 42 years; medical examiner for the southeastern section of Plymouth County; professor of pathology in the College of Physicians and Surgeons, Boston, from 1882 to 1893 and in Tufts College Medical School, Boston, from 1893 to 1902, and lecturer on legal medicine in the same institution; president of the Plymouth County Medical Society in 1878 and 1879, and at the time of his death a censor in that organization; a member of the Massachusetts State Medical Society, and councilor since 1883; a member of the Massachusetts Medicolegal Society; a charter member of the Hatherly Medical Society, died suddenly at his home in Abington, December 29, from heart disease, aged 75.

Edward Gilman Bryant, M.D. Harvard University Medical School, Boston, 1892; formerly port physician of Boston; later house physician of the Women's Hospital in the State of New York, and after a term as specialist in throat diseases at the Willard Parker Hospital, appointed head physician of the Hospital for Contagious Diseases, North Brother Island, and recently made chief diagnostician of the New York Department of Health; a member of the New York County Medical Society, died in Bellevue Hospital, January 8, from chronic nephritis, aged 38.

William H. Myers, M.D. Jefferson Medical College, Philadelphia, 1855; surgeon of the Thirtieth Indiana Volunteer Infantry during the Civil War; one of the oldest practitioners of Allen County, Indiana; prime mover in the establishment of hospitals in Fort Wayne and in the organization of the Fort Wayne Medical College; for many years surgeon to the railways centering in Fort Wayne; considered one of the ablest expert witnesses in the state, died at his home in Fort Wayne, January 5, after an illness of two weeks, aged 80.

Joseph Hall Moore, M.D. University of Georgetown, Medical Department, Washington, D. C., 1854; a Confederate veteran; for 10 years president of the Virginia State Board of Dental Examiners, and for six years professor of clinical surgery in the Medical College of Virginia, died at his home in Richmond, Va., from senile debility, December 28, after an invalidism of several months, aged 74.

Edmund Morris Pease, M.D. College of Physicians and Surgeons in the City of New York, 1862; surgeon in the Federal army during the Civil War, and afterward a medical missionary in the Marshall Islands; for 12 years a resident of Clare-

mont, Cal., died in the Pomona Valley (Cal.) Hospital, November 28, four days after operation for intestinal obstruction, aged 77.

Philip Carroll, M.D. University of Georgetown, Medical Department, Washington, 1879; a veteran of the Civil War; for 26 years in the diplomatic service of the United States, during which time he was awarded a diploma of honor for heroic and efficient service during the cholera epidemic in Palermo in 1885, died at his post of duty in Manzanillo, Mexico, December 15.

Theodore F. Heath, M.D. College of Physicians and Surgeons in the City of New York, 1851; a member of the Northeast Ohio Medical Association; a member of the town council, board of township trustees, and once president of the board of education, died at his home in Cuyahoga Falls, Ohio, January 5, from heart disease, after an illness of five years, aged 78.

Ebenezer O. Bennett, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1880; for 19 years superintendent of the Wayne County Insane Hospital, Eloise, and thereafter surgeon of the Michigan Soldiers' Home, Grand Rapids; a veteran of the Civil War, died at his home in Detroit, January 1, after a short illness, aged 70.

John Roberts Umberger, M.D. Pennsylvania Medical College, Philadelphia, 1861; in 1852 a member of the staff of the governor of Pennsylvania; a member of many medical societies; and one of the best known physicians of Dauphin County, died at his home in Dauphin from cerebral hemorrhage, January 2, after an illness of six weeks, aged 77.

Charles Collins, M.D. Rush Medical College, Chicago, 1894; a member of the American Medical Association and one of the most esteemed practitioners of Lima, Ohio; for several years division surgeon of the C., H. & D. R. R., died at his home in Lima, December 29, from organic heart disease, after a long illness, aged 38.

Royal Porter Wales, M.D. Homeopathic Medical College of Missouri, St. Louis, 1861; a member of the American Medical Association and one of the early physicians of Carroll County, Ill., who lived at Lanark for many years, died at his home in Colorado Springs, Colo., January 1, after a long illness, aged 67.

William E. Johnston, M.D. Starling Medical College, Columbus, Ohio, 1882; twice a member of the school board of Etna, Pa., and burgess of the town from 1903 to 1906; a member of the local board of health, died at his home, January 1, from typhoid fever, after an illness of several weeks, aged 52.

Joseph Volmer, M.D. University of Freiburg, Germany, 1877, a member of the American Medical Association; and formerly a practitioner of Milwaukee, Wis., and of Grand Rapids, Mich., died at his home in Hutchinson, Minn., from nephritis, after an illness of several months, aged 55.

William H. Dingee, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1896; a well-known specialist on diseases of the eye, ear, nose and throat in Philadelphia, died at his home in that city, December 30, from chronic nephritis, after a prolonged illness, aged 32.

Volney Homet, M.D. Jefferson Medical College, Philadelphia, 1856; surgeon of the Seventh Pennsylvania Volunteer Reserves during the Civil War; a member of the Bradford County (Pa.) Medical Society, died at his home in Wyalusing, December 27, from heart disease, after a long illness, aged 73.

Frank E. H. Steger, M.D. University of Nashville (Tenn.) Medical Department, 1855; for many years a leading practitioner of Alabama, died at the home of his daughter in Nashville, Tenn., January 3, from cerebral hemorrhage, after an illness of two weeks, aged 96.

John D. Smith, M.D. Memphis Medical College (Medical Department of Cumberland University), Memphis, Tenn., 1855; surgeon in the Confederate army during the Civil War, died at his home in Paducah, Ky., from senile debility, December 28, aged 80.

Albert J. Fisher, M.D. Philadelphia College of Medicine and Surgery, 1852; a practitioner of Mifflin County, Pa., for more than 50 years, and a member of the state legislature in 1889, died at his home in McAlistervile, December 31, from paralysis, aged 76.

James Nelson Banks, M.D. National Medical College, Medical Department of Columbian College, Washington, D. C., 1842; a practitioner of Chicago until his retirement a few years ago, died at his home in Kenilworth, Ill., December 11, aged 90.

Frederick A. Waggoner, M.D. Keokuk (Iowa) Medical College, 1896, a member of the American Medical Association and a well known physician of Hamilton, Ill., died at Boulder, Colo., where he had gone for his health, January 1, aged 34.

Henry C. Berger, M.D. Rush Medical College, Chicago, 1891; prominent as a social democrat at Milwaukee, was taken ill in Racine, Wis., January 2, with heart disease, and died while being taken to the Emergency Hospital, Milwaukee, aged 42.

Philip Edwards Johnson, M.D. College of Physicians and Surgeons in the city of New York, 1894, a physician of New York City, who formerly resided at New Brighton, S. I., was murdered and robbed at Portland, Ore., January 7.

John B. Cameron, M.D. McGill University, Medical Department, Montreal, 1893; assistant gynecologist at the Montreal General Hospital, died at that institution January 4, from typhoid fever, after an illness of 10 days, aged 38.

Julius F. Krug, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Erie County Medical Society and Medical Society of the State of New York, died at his home in Buffalo, December 31, from pneumonia, aged 56.

Earl H. Ostrander, M.D. University of Buffalo (N. Y.) Medical Department, 1857; formerly of Appleton, Wis., died at his home in Ballard, Wash., December 28, from chronic bronchitis, after an illness of more than a year, aged 78.

Isaac A. Moody (Years of Practice, Ohio, 1896); a member of the American Medical Association, and for 26 years a practitioner of Junction City, Ohio, died at that place November 18, suddenly, from heart disease, aged 56.

J. M. Theodore F. Forest (Years of Practice, Louisiana); a member of the Vermillion Parish Medical Society, died at his home in Kaplan, La., from hepatic abscess, November 25, after an illness of three months, aged 69.

Theodore F. Morris, M.D. Bellevue Hospital Medical College, New York City, 1863; for 40 years a practitioner of Jersey City, N. J., died at the home of his son in Astoria, L. I., January 1, aged 75.

Andrew Jackson Eastman (Years of Practice, Kansas); a practitioner of Kansas for 30 years, died at his home in Burlington, November 15, from carbuncle, after an illness of two weeks, aged 63.

John L. Connelly, M.D. Rush Medical College, Chicago, 1878; for many years a resident of Harristown, Ill., died at his home in that village, January 1, from heart disease, after a long illness, aged 60.

Horace T. Bell, M.D. University of Louisville, Medical Department, 1874, died at his home near Sharpsburg, Ky., December 26, from dropsy, after an illness of two months, aged 65.

Samuel Wilmot Gleason (Examination, New York), 1874; for more than 60 years a practitioner of medicine, died at his home in Brockport, N. Y., December 7, from senile debility, aged 85.

Clare Sumner Learned, M.D. College of Physicians and Surgeons, Chicago, 1905, was found dead in his apartments in Chicago, January 9, from accidental gas asphyxiation, aged 25.

Sarah C. Taylor, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881; died recently at her home in Hamburg, Iowa, aged 71, and was buried at Sidney, Iowa, January 4.

Alpheus S. Sayers, M.D. Medical College of Indiana, Indianapolis, 1894; died at his home, in East Newmarket, Md., December 26, from acute gastritis, after an illness of one hour.

Frederick A. Rugg, M.D. University of Nebraska, College of Medicine, Omaha, 1897, of Douglas, Wyo., died in the South from nephritis, after a long illness, December 29.

J. Buxton Williams, M.D. University of Maryland School of Medicine, Baltimore, 1868; a Confederate veteran, died suddenly at his home in Oxford, N. C., January 2, aged 68.

Geary W. Reynolds, M.D. University of Vermont, Medical Department, Burlington, 1866, died at his home in Potsdam, N. Y., December 29, after a prolonged illness, aged 62.

Edward M. Shaw, M.D. Medical College of Ohio, Cincinnati, 1885; died at his home in Victoria, Texas, January 1, from heart disease, after an illness of two days, aged 46.

W. Murray Johnston, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1887; died at his home in Los Angeles, December 29, from peritonitis.

Albert B. Cope, M.D. Jefferson Medical College, Philadelphia, 1883, died at his home in Columbus, Ohio, January 4, from tuberculosis, after an illness of several years, aged 60.

Albert N. Willey, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1881, died at his home in Shawnee, Okla., January 1, after an illness of five years.

James **Emery McCormick, M.D.** New York University, New York City, 1894; of Ottumwa, Iowa, died in Miami, Fla., December 29, after an illness of three months.

John **T. Doke** (License Indiana, 1889); a veteran of the Civil War and a practitioner of medicine since 1868, died at his home in Argos, Ind., December 27, aged 64.

Solomon **D. Meredith, M.D.** Barnes Medical College, St. Louis, 1895, of Carthage, Mo., was shot and killed by Arthur Sanderson of Carthage, January 4, aged 37.

Samuel **M. Todd, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1865; died at his home in Boyertown, Pa., January 3.

Robert **Caruthers, M.D.** University of Nashville, Medical Department, 1880, died at his home in Nashville, December 31, after a long illness, aged 53.

Aylesbury **Mathis, M.D.** Jefferson Medical College, Philadelphia, 1851; died from paralysis, at his home in Sandersville, Ga., December 31.

Joseph **W. Glynn, M.D.** Long Island College Hospital, Brooklyn, 1894, died at his home in Flatbush, Brooklyn, December 31, aged 36.

Olive **F. McCune, M.D.** Hygeio-Therapeutic College of New York, 1859, died at her home in Brooklyn, January 4, aged 77.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

THE PROGNOSIS IN DISLOCATION OF THE HIP.

————, MASS., Dec. 20, 1906.

To the Editor:—Kindly answer the following questions: (a) in a case of simple uncomplicated dorsal dislocation of the hip in a healthy man, what amount of shortening, if any, ought to result, granted that reduction has been accomplished in a scientific manner? What is the character of the apparatus and dressing that should be applied immediately following reduction? How much would a coincident injury to the knee of the injured leg, producing a slight synovitis with a small amount of effusion, add to the gravity of the case? Where can I find references and statistics that bear on the prognosis, as obtained from similar cases, especially with reference to the probable period of total and partial disability and the character and amount of permanent disability likely to result? (b) An open wound, 2 inches square in area, below the popliteal space, has the skin margin one-sixteenth inch higher than the granulating surface. Two months have elapsed since the injury; meantime there was a complication, in the form of erysipelas of the calf, lasting two weeks. Granulations show no tendency to grow, though the patient is now in perfect health. What is the best method of favoring the formation of healthy granulations? T. T.

ANSWER.—(a) There should be no shortening whatever in a simple uncomplicated dorsal dislocation of the hip in which complete reduction has been effected. In fact, the length of the leg should be just what it was before the dislocation occurred, provided in the reduction none of the torn capsule or other soft parts has been carried into the acetabulum in advance of the head of the femur. Ordinary rest in bed is the only treatment necessary after reduction has been accomplished, as there is usually no tendency for the dislocation to recur. In case the patient suffers much pain or is restless, the joint may be immobilized by means of a long splint for a few days. In ordinary uncomplicated cases in healthy men, the patient is up and around with a crutch in from seven to fourteen days and back to work within a month. Patients have been able to return to work within fifteen days. Hoffa places the partial disablement at 25 per cent. for from four to six weeks. Waibel, in his text-book on "accidents" (Begutachten der Unfälle), where much information concerning the subject will be found, also allows partial disablement of 25 per cent. for four to six weeks in the simple uncomplicated cases.

(b) The quickest way of healing a wound such as described, would be to apply hot, moist dressings of 3 per cent. boric acid for a few days until the wound is clean and granulating, and then cover the surface with Thiersch grafts. The leg should be fixed on a splint during the healing in order to prevent movement of the knee which might displace the grafts.

SHIP SURGEONS.

COLUMBIA, MO., Jan. 8, 1907.

To the Editor:—Kindly give me some information concerning the hospital staffs on ocean steamships, how positions may be obtained, also about the remuneration, duties, etc. L. T. MARSH.

ANSWER.—Transatlantic liners carry one surgeon; the larger vessels have one or two assistants also. The positions are to be obtained by applying directly to the steamship companies. The duties usually consist in the medical attention required by all passengers in consequence of sickness or injury incidental to the voyage, and also *all* medical care of the steerage passengers and crew. In the case of the other passengers medical attention not demanded by conditions incident to the voyage is a matter of private contract between the physician and the patient. The salary paid by the companies varies from nothing to $150 per month, in addition to board and lodging. A usual amount is $50, but the gratuities on some vessels amount to more than the salary. Further information can be obtained by applying to the ocean steamship companies.

THE TYPHOID SPINE.

PITTSBURG, PA., Jan. 5, 1907.

To the Editor:—In an editorial on "Typhoid Spine" in THE JOURNAL, January 5, the statement is made that "last year Fluss was able to collect nearly 50 cases." I am making a study of the literature, and have not seen any reference to his article. If you will kindly send me the reference, I shall appreciate the favor very much. DAVID SILVER.

ANSWER.—Fluss' article is found in Centralblatt f. die Grenzgebiete der Medicin und Chirurgie, Oct. 11-Nov. 30, 1905, viii, 17-21. He gives references to 46 cases.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 12, 1907:

Duval, Douglas F., asst.-surgeon, granted leave of absence for thirty days.

Davidson, Wilson T., asst.-surgeon, leave of absence extended fifteen days.

Wilson, Compton, asst.-surgeon, ordered to report in person, on Tuesday, Feb. 19, 1907, to Major William C. Borden, surgeon, president, examining board, Washington, D. C., for re-examination for advancement.

Little, William L., asst.-surgeon, advanced to the rank of captain, from Jan. 6, 1907.

Purviance, Wm. E., surgeon, Pipes, Henry F., asst.-surgeon, and Bingham, E. G., asst.-surgeon, relieved from duty in the Philippines Division, and will proceed on the first available transport sailing from Manila, after April 1, 1907, to San Francisco, and on arrival report by telegraph to the Military Secretary of the Army for further orders.

Morris, S. J., asst.-surgeon, relieved from duty on the transport *Sumner* and from further duty at Fort Schuyler, N. Y., and ordered to Fort Washington, Maryland, for duty.

Crampton, Louis W., deputy surgeon general, granted two months' leave of absence, to take effect about Jan. 21, 1907.

Halloran, Paul S., asst.-surgeon, ordered to proceed from Fort Leavenworth, Kansas, to St. Louis, and assume charge of the medical supply depot in that city during the absence of Lieut.-Col. Louis W. Crampton, deputy surgeon-general.

Parkman, Wallace E., contract surgeon, relieved from duty at Fort Assinniboine, Mont., and ordered to duty at Fort Keogh, Mont.

Hayes, Melville A., contract surgeon, left Fort Stevens, Oregon, and arrived at Fort Flagler, Wash., for temporary duty.

Marshall, John S., examining and supervising dental surgeon, left Army General Hospital, Presidio of San Francisco, on leave of absence for ten days.

McAlister, John A., dental surgeon, relieved from duty at Presidio of Monterey, Cal., and ordered to duty at Fort Sheridan, Illinois.

Rhoades, Rex H., dental surgeon, relieved from duty at Fort Sheridan, Illinois, and ordered to duty at Columbus Barracks, Ohio.

Boak, S. Davis, dental surgeon, relieved from duty at Columbus Barracks, Ohio, aand ordered to Havana, Cuba, for duty; granted leave of absence for ten days.

Voorhies, Hugh G., dental surgeon, authorized to return from the Philippines in June or July, 1907, on the transport *McClellan*, via Suez; granted leave of absence for one month.

Wolven, F. Homer, dental surgeon, returned to Fort Monroe, Va., from leave of absence.

Miller, William G., contract surgeon, ordered to Army General Hospital, Washington Barracks, D. C., for treatment.

Holmes, Thomas G., contract surgeon, granted leave of absence for one month.

Hereford, John R., contract surgeon, order for duty at Fort McPherson, Ga., amended; will proceed to Fort Dade, Fla., for duty.

Allen, Ira A., contract surgeon, relieved from further duty at Fort Dade, Fla.; will proceed at expiration of present sick leave of absence to Fort McPherson, Ga., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 12, 1907:

Kennedy, T. J., P. A. surgeon, to duty on the U. S. R. S. *Hancock*.

Blackwell, E. M., P. A. surgeon, to duty at the Naval Academy, Annapolis, Md., as the relief of Asst.-Surgeon R. E. Hoyt.

Moore, A. M., surgeon, retired, detached from duty at the Naval Recruiting Station, Memphis, Tenn., and ordered home.

Grove, W. B., surgeon, to duty at the Naval Medical Supply Depot, Brooklyn, and additional duty under instructions from the Bureau of Medicine and Surgery.

Hoyt, R. E., P. A. surgeon, detached from duty at the Naval Academy, Annapolis, Md., and to duty at the Naval Hospital, Canacao, P. I., as the relief of Asst.-Surgeon H. W. Smith.

Smith, H. W., asst.-surgeon, on the reporting of his relief, detached from duty at the Naval Hospital, Canacao, P. I., and to home by way of Europe, with permission to delay two months in Europe.

Taylor, E. C., P. A. surgeon, detached from duty at the Naval Hospital, New York, and to duty at the Naval Recruiting Station, Memphis, Tenn., in place of Surgeon C. J. Decker, whose orders for this duty the Bureau recommends revoked.

Holloway, J. H., P. A. surgeon, detached from duty at the Navy Yard, Norfolk, Va., and such other duty as may have been assigned him, and to duty with the Navy Recruiting Party No. 4.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 9, 1907:

Geddings, H. D., asst.-surgeon general, directed to proceed to Charleston, S. C., for special temporary duty, on completion of which to rejoin station.

Guiteras, G. M., surgeon, granted leave of absence for seven days from Jan. 8, 1907.

Lavinder, C. H., P. A. surgeon, granted leave of absence for seven days.

Lavinder, C. H., P. A. surgeon, granted an extension of leave of absence for seven days.

Grubbs, S. B., P. A. surgeon, granted one day's leave of absence, Jan. 7, 1907.

Anderson, J. F., P. A. surgeon, directed to proceed to Detroit, Mich., for special temporary duty, on completion of which to rejoin station.

Collins, G. L., asst.-surgeon, granted two days' leave of absence, January 7 and 8.

Barnes, W., acting asst.-surgeon, granted leave of absence for nine days from Jan. 1, 1907.

Lyall, R., acting asst.-surgeon, granted leave of absence for four days in December, 1906, under Paragraph 210 of the Regulations.

Ransom, S. A., acting asst.-surgeon, granted leave of absence for twenty days from Jan. 1, 1907.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for twenty days from Dec. 12, 1906.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for ten days from Jan. 1, 1907.

Holsendorf, B. E., pharmacist, granted leave of absence for thirty days from Jan. 1, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended, Jan. 11, 1907:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 22-29, 1 case; San Francisco, Dec. 8-15, 1 case.

Georgia: Augusta, Dec. 25-Jan. 1, 10 cases.

Illinois: Abingdon, Nov. 16, 1 case; Chicago, Dec. 22-29, 1 case; Galesburg, Dec. 22-Jan. 5, 18 cases; Moline, Sept. 27-Nov. 9, 5 cases; Victoria and vicinity, Jan. 7, present.

Indiana: South Bend, Dec. 22-Jan. 5, 5 cases.

Kansas: General, Nov. 1-30, 41 cases.

Louisiana: New Orleans, Dec. 29-Jan. 5, 2 cases.

New York: New York, Dec. 22-Jan. 5, 6 cases.

Texas: Houston, Dec. 29-Jan. 5, 2 cases.

Virginia: Louisa County, Nov. 11-Jan. 5, 6 cases.

Washington: Spokane, Dec. 22-29, 9 cases.

Wisconsin: Milwaukee, Dec. 15-Jan. 5, 23 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Nov. 10-24, 4 cases.

Brazil: Bahia, Nov. 24-Dec. 8, 7 cases; Pernambuco, Nov. 1-15, 16 cases; Rio de Janeiro, Nov. 11-Dec. 8, 5 cases, 2 deaths.

Chile: Coquimbo, Nov. 15-30, 28 cases, 2 deaths; Iquique, Nov. 24-Dec. 15, present.

France, Paris, Dec. 1-8, 12 cases.

Gibraltar: Dec. 2-9, 3 cases, imported.

Great Britain: Manchester, Dec. 15-22, 1 case.

India: Calcutta, Nov. 23-Dec. 1, 3 deaths; Madras, Dec. 1-7, 3 deaths.

Italy: General, Nov. 22-Dec. 13, 14 cases.

Russia: Odessa, Dec. 1-8, 17 cases, 2 deaths; St. Petersburg, Nov. 23-Dec. 1, 6 cases.

Spain: Barcelona, Nov. 1-10, 5 deaths; Cadiz, Nov. 1-30, 3 deaths; Seville, 33 deaths.

Syria: Beirut, Dec. 8-15, present.

YELLOW FEVER.

Cuba: Habana, Dec. 26, 1 case; Santa Clara, Jan. 8, 1 case.

CHOLERA.

India: Bombay, Nov. 24-Dec. 8; 13 deaths; Rangoon, Nov. 24-Dec. 1, 11 deaths.

PLAGUE.

Chile: Antofagasta, Nov. 26-Dec. 9, 4 cases, 3 deaths.

Egypt: Alexandria, Dec. 4-18, 4 cases, 1 death; Garbeih, Dec. 11, 1 case, 1 death; Guerga, 1 case, 1 death; Keneh, Dec. 7-20, 26 cases, 22 deaths; Meneulieh, Dec. 10-18, 11 cases, 7 deaths.

India: General, Nov. 17-24, 6,941 cases, 5,300 deaths; Bombey, Nov. 28-Dec. 8, 18 deaths; Calcutta, Nov. 24-Dec. 1, 14 deaths; Rangoon 18 deaths.

Japan: Kobe, Nov. 24-Dec. 8, 2 cases, 1 death.

Mauritius: Oct. 4-Nov. 8, 112 cases, 81 deaths.

Medical Organization

A COURSE IN MEDICAL ECONOMICS.

For the reasons given below, it was suggested in the House of Delegates of the American Medical Association, at its Boston session in June, 1906, that each medical college be requested to consider the establishing of a department in Medical Economics, the chair to be filled by a carefully selected teacher who has himself been successful in the special lines to which the work relates. The subjects to be included in this department, it was suggested, should be (1) a business course, (2) a course in the medical ethics and (3) a course on organization. A course in the history of medicine might also be included.

1. *A Business Course.*—This course is intended to lay stress on (a) Importance of probity and honor in all transactions, particularly in reference to those as witnesses, as insurance or pension examiners, in the issuance of health certificates, etc. (b) The fundamental principles underlying a physician's compensation, as well as the dangers both to the profession and to the public from inadequate support (proper compensation most important, since it enables the physician to keep up with the advances in medicine and be better equipped to meet the responsibilities of his life-saving work). (c) The importance of a fair but purely advisory schedule of fees in each community. (d) The justice of double fees after 8 p. m. that time may be had for study, society work and family and social life. (e) Necessity of modern methods of medical bookkeeping and frequent, regular and systematic collections. (f) The duty and privilege of cheerful, gratuitous service to the worthy poor, but that such service to the clergy and other well-to-do classes should cease at once and forever (this last should be explained by the statement that osteopathy and nearly every other fad have had their chief support from those whom physicians have served without compensation). (g) The evils and dangers of lodge and contract practice. (h) The downright dishonesty of a division of fees with surgeons and druggists, unless it be with the full knowledge of the payer. (i) Value both to the physicians and to the public of coöperation between physicians instead of the old spirit of competition. In brief, this course should give each student complete instruction in regard to the financial side of his practice.

2. *A Course in Ethics.*—This course should begin with the inculcation of the broad spirit of altruism, which should be a part of the warp and woof of every true physician. It should be made clear that doctors exist primarily because there is sickness to be prevented and afflicted people to be relieved, and only secondarily for their own benefit. They should be taught that, instead of the profession being overcrowded, there are not enough physicians in this country to do the work if every sick person received the kind of scientific examination and treatment to which he or she is entitled. The Principles of Medical Ethics, embodying the accumulated advice and wisdom of the ages, should be read section by section and discussed and explained so that its teachings can be adapted to the needs of their daily lives, and made both chart and compass to them, instead of the bone of contention and fruitful cause of trouble which has been its chief function in the past. They should be taught that no doctor has ever profited permanently by unprofessional or dishonest conduct, and that the widespread public disgrace under which the profession is laboring to-day, handicapping us individually and as a whole, in both reputation and purse, is the result of petty, senseless, causeless quarrels between physicians competing for the same practice, which by joint study and increased competency would be found so multiplied that both or all of them could hardly give it attention. In contrast with all of this should be held up the reasonable and desirable possibilities open to a united profession in every county, state and the nation, working intelligently for the promotion of its own and the public welfare.

3. *A Course on Organization.*—This course embraces the entire field of medical sociology, including business and ethics, but should be restricted more particularly to the methods best adapted to secure higher standards of competency and more practical coöperation between physicians already in practice, and who have not had the advantages of such a course as is here advocated, and with whom the new graduates will at once

be brought in contact. The history of medical organization in this and other countries, and the present disorganized and demoralized condition of medical affairs in this country, traceable largely to a failure of the schools to teach better methods in the past, should be outlined. The plan is now going into operation based on the county society system, with the state and national associations for fostering and acting as connecting and intercommunicating links and agencies between these, should be explained clearly. It should be dwelt on that the county society, or subdivision of it, as may be, meeting weekly or oftener for joint study, social intercourse, business adjustments and the solution of all other problems inseparable from the evolution of a great profession into the usefulness possible to it under intelligent direction, is of the first importance, and membership in it the first duty of the graduate after his location is selected. The proper relations between the county, state and national organizations, and especially the dependence of the entire system and of the individual doctor on the permanent efficiency of the county societies, should be thoroughly presented so that the students know and appreciate what it means to each of them. They should also have drilled into them then how easily the county societies may be developed for systematic postgraduate study. The average physician in this country has done little studying after graduation, and the schools owe it to themselves, their students and the people, that in so far as they can guard against it, their alumni shall not leave them without instruction on these important matters. They should also be told how and why by occasional joint meetings with the bar, teachers, ministerial associations, legislators, municipal and other officials, mutual instruction and understandings may be secured of infinite value to all.

Argument.—Good results from such instruction will be: (a) A medical profession more up to date in medical knowledge, resulting from (b) a better organized profession, including better city and county societies, and, therefore, (c) more ability to influence legislation that will lessen present evils and raise medical standards. (d) More successful physicians, financially and, therefore, also professionally, since they may be better equipped. (e) A removal of the stigma of the "shiftless or unbusinesslike doctors," which at present has much to do with lowering the dignity of the profession. (f) The proper regulation of gratuitous practice and an end to pauperization of those well able to pay. (g) Better vital statistics reports.

The urging of this course is a direct outgrowth of the startling revelations made in the effort to organize the profession of this country within the last five years. Largely because of the entire and incomprehensible neglect of these important subjects in the past, even in the best medical schools, it was found that a majority of the physicians in many states are in such poverty that they receive no periodical literature except the cheap or free trade journals; have few text-books which do not antedate their graduation, and in every way are so poorly equipped as to be unable to give their patrons the benefits of modern scientific treatment. In most states more than two-thirds of the entire profession had not had the benefit of membership and attendance in any medical society; that profitless, senseless discord existed in nearly half of the communities, the faculties of the colleges often contributing to this in no small degree where two or more exist in a community, and that in consequence of these conditions the profession as a whole has always been and still is held in such public contempt that it is powerless in most states and in the nation in securing and enforcing legislation in both civil and military life, most essential to the honor and usefulness of the profession, and still more so to the well-being of the people.

If medical graduates in the past could have been taught how they could have legitimately obtained practice and made a living, how and why they should live in peace and coöperation, or at least on terms of decent respect, with their professional neighbors, and the importance of such unity of purpose and action in public affairs as would have enabled the power and influence of the profession to have been concentrated on legislators and the other official classes, state and national, these evils, so disastrous to its good name and progress, would have been avoided or greatly minimized, and it would be unnecessary now to spend years to regain ground which should never have been lost, or in recovering that place in the public and official estimation which was forfeited by faults entirely within our own ranks. It is within our power, however, now to so educate the future physicians, while they are grouped together in the schools, and are in the formative periods of their professional lives; as to greatly lessen these evils and to enable our profession, in time, to come into its own. To this end the Association has determined to do all in its power to enlist the coöperation of schools and examining boards in each state, and to press the work until these objects are attained.

A MODEL ORGANIZATION.

The Washington County (Pa.) Medical Society.

We have just received from the secretary, Dr. John D. Donaldson, Canonsburg, Pa., the announcement and program, for the year, of the Washington County (Pennsylvania) Medical Society. This admirable organization is a striking proof of the fact that the success of a society depends on the quality of the men who compose it and not on numbers or locality. Although having no large cities or centers of medical activity within its jurisdiction, this society has developed a membership, interest and enthusiasm which would be worthy of any large city. Its meetings are held bimonthly at the Washington County Court House at Canonsburg, in a room which the county has set aside for the use of the society. This room contains the books, records and various properties of the society, as well as portraits of its presidents and prominent members of years gone by. The organization thus possesses the first qualification for stability and permanence; namely, a fixed and recognized home. Its membership comprises practically the entire reputable medical population of the county. Each member receives regularly from the secretary a printed communication containing announcements, programs and items of general interest.

When we examine the program, which has been made up for the coming year, we find that, instead of leaving the work of the society to chance or accident, the entire year's work is provided for, so that there is no conflict or repetition. The program illustrates so many points which should be considered by county secretaries that it is worthy of further comment.

The January meeting is devoted to a consideration of diphtheria. The first paper covers the bacteriology of the disease; the second, the clinical diagnosis. In the third paper, the method of preparation and action of antitoxin is considered, while the fourth and last paper has to do with the prevention of diphtheria and methods of disinfecting. Here we have the cause and the means of recognizing the disease considered; then, since antitoxin is the only rational modern method of treatment, it is fitting that the physician who uses it should know something about its method of preparation. The last paper brings out the pathologic and hygienic phase of the disease, as well as the duty of the physician to the community.

The March and May meetings are devoted to obstetric questions and so are very properly inaugurated by a paper on the "Anatomy of the Female Pelvis." Then follow articles on "How to Diagnose the Presentation:" "The Diagnosis, Treatment and Prevention of Septic Infection;" "The Use and Abuse of Forceps;" "The Mechanics and Management of a Breech Presentation;" "Placenta Previa;" "Prolapsus Funis;" "Face Presentation" and "Detection and Repair of Lacerations of the Perineum." Every one of these topics is eminently practical, worthy of discussion and of interest to every general practitioner in the society, as well as to the member with a leaning toward specialism. Every one of them could be adequately and interestingly considered by a well educated and well equipped general practitioner.

The fourth meeting is devoted to the eye, ear, throat and nose. The topic is introduced by a paper on "The Anatomy of the Eye;" followed by one on practical ophthalmoscopy and one on iritis and glaucoma. "The Anatomy of the Ear, Nose and Throat" is then considered; followed by papers on "Otitis-Media and "Chronic Rhinitis and Pharyngitis."

The September meeting, the fifth, is devoted to diseases of the stomach. Two papers, one on "The Anatomy of the Stomach" and one on "The Chemistry of Digestion," serve to introduce the topic. Papers on "Hiccoughing and Vomiting;" "Early Symptoms of Cancer" and "Pathology of Ulcer of the Stomach," complete the program.

The last meeting of the year takes up the subject of the liver and gall bladder. After the usual introductory article on the anatomy of the structures under consideration, is a paper on "Drugs that Act on the Liver." A paper on "The

Pathology of the Gall Bladder" and one on "Biliary Colic," complete the program.

We have here twenty-nine papers for the year, an average of five papers to a meeting, each considering the subject of the evening from a different point of view, and, together, covering systematically all the essential features. The secretary's report states that there are, at present, 108 members in this county society. If the work is evenly distributed, this would mean that each member would prepare a paper on an average of about once in four years. In addition to the benefit which he would derive from a carefully prepared paper, presented to his fellow practitioners for criticism and advice, he would also, in this time, hear about 100 papers read and discussed. As the local dues of the society are $3.00 a year, the total expense of each member for four years would be $12.00. Could any intelligent physician possibly make a better investment of so small a sum? Can any physician in Washington County who really desires to be of the greatest possible value to himself and his patients, afford to miss any of these meetings? Is there any reason why any ten physicians, of ordinary education, training and experience, practicing in any county in the United States, can not get together six times each year and do similar work if they so desire? What is now actually being done in Washington County can be done in any other county, if the local members of the profession will only make up their minds that they can and will work together in harmony for the benefit of themselves and the community in which they have their homes.

Contract and Lodge Practice.—Medical societies are united in declaring themselves as being opposed to contract and lodge practice, and their members are convinced of the perniciousness of such systems of employment. The work savors of the dry goods store's weekly bargain, and the patient is forced into accepting the services of a physician whom he would not employ if his wishes were consulted. Cheap pay, cheap labor, although there is an occasional exception to this rule. But it is the rule and not the exception that must be dealt with in this instance.

The *Ohio State Medical Journal*, in its November 15, 1906, issue, very ably discusses this question editorially. One deplorable effect of this business is the strained relations between the patient and his physician. Patients, left to their unbiased judgment, select the physician of their choice, because they think he can treat them better than any other physician within their reach; consequently he enjoys their fullest confidence. This knowledge is a most decided stimulant to the physician in calling out his best efforts in behalf of the patient. Having this confidence, he knows that his advice will be heeded and measures for the welfare of the patient will without question be carried out. Between physician and patient there exists a confidence that is of inestimable value to both, for there is nothing that so weakens the efforts of the physician as to feel the lack of this close bond of sympathy.

In the great majority of instances the relation of the lodge or corporation doctor to his patient is only formal and wholly lacking in this mutual confidence. The physician being chosen by the lodge or corporation the patient accepts his service through loyalty to his fraternity or perhaps because he can not help himself, in which case he looks on the doctor as inferior, because he is cheap. Under these circumstances a physician is often continued through a severe sickness in which a life is in the balance when he is absolutely repulsive to the patient. The best results can not follow such conditions.

The *Ohio State Medical Journal* believes that the next serious objection to this class of practice is that an inadequate remuneration is invariably provided by those originating the idea, with the expectation that services can be secured at the stipulated "knock-down" price because most physicians have need of the increase of income. The entire proposition, thus fostered, is devoid of good business principles. The servant that is but half paid will give poor service. If a railway or other corporation has such financial or other interest in the health of its employés or patron that it assumes the responsibility of professional service, there is no good reason why it should not pay for the same at the price current in that locality.

Society Proceedings

COMING MEETINGS.

Med. Society of State of New York, Albany, Jan. 29, 1907.
Medical Society of Missouri Valley, Omaha, Neb., March 21-22, 1907.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Dec. 12, 1906.

The President, DR. CHARLES K. MILLS, in the Chair.

SUPPRESSION OF QUACKERY.

Relation of the Physician to the "Patent-Medicine" Curse.

MR. EDWARD BOK of the *Ladies' Home Journal* pointed out that in two distinct ways the medical profession to-day is obstructing the efforts of the laymen in the fight against "patent medicines." Since the life of the nostrum business depends on the publicity which can be given it, in the fight against it, one of the first efforts has been to ascertain to what extent the press can be depended on to exclude "patent medicines." To-day scarcely a prominent monthly magazine accepts "patent medicine" advertisements; the same is true of the prominent weeklies and the farm journals. Pressure is being brought to bear on the religious press. Of the newspapers, 43 absolutely refuse "patent medicine" advertisements.

All classes have been assisting except the physicians. The average medical paper, he said, reeks with "patent medicine" advertisements in the form of reading notices and abstracts. The very class of papers that should be the first to cleanse its columns is the last. As a result, when the newspapers were asked to exclude "patent medicine" advertisements, the argument was advanced that the medical press admits them.

To pass resolutions is easy and comfortable and about as ineffective as comfortable. Organized protest amounts to little, but the individual protest has positive force. Two ways were pointed out in which this can be exerted: As readers and subscribers physicians may insist that the advertisements be excluded; or, as physicians, they may stop prescribing the nostrums and thus make the advertisements unprofitable.

While assembled to discuss "The Suppression of Quackery," a more appropriate topic, in his opinion, would be "The Suppression of the Physician in Aid of Quackery."

Quacks and Their Relation to the Practice of Medicine.

THOMAS W. BARLOW, ESQ., of the Philadelphia bar remarked that it is actionable at common law to speak of a physician as a "quack," and that the term has been one of reproach for many centuries. Partridge, a quack of 1708, was also a cobbler, astrologer and almanac maker. Of him Swift had said:

> "Weep all you customers who use
> His pills, his almanacs and shoes."

Smith went about England in the Eighteenth century dressed in black velvet and offered to cure any disease for a sixpence. His coach, drawn by six bay horses, had on it a coat of arms with the motto *Argento Laborat Faber* (Smith works for money).

Mr. Barlow defined a quack as one who pretends to have skill or knowledge which he does not possess. He quoted Dr. Johnson as having said over a century ago that a doctor of medicine is a physician under the protection of the laws and by the stamp of authority. In defining the practice of medicine within the meaning of the law he quoted from the opinions of the courts of the different states. The power of the states to regulate the practice of medicine has been universally upheld. The Supreme Court of Pennsylvania describes this as a just and proper exercise of the police power of the state.

Regarding the legal situation in Pennsylvania, he said that the law declines to recognize osteopathy, electropathy and Eddyism as schools of medicine, and yet holds their practitioners exempt from offense if in attempting to heal they use neither drugs nor instruments, because "it is doubtful," as one court says, "if the legislature has the right to restrict the choice of the citizen in a matter concerning only himself."

This he designated as a dangerously illogical and foolish situation. He regards it as unnecessary to prove that the prevention and cure of disease is not a matter concerning only the citizen himself. He urgently insisted on the necessity for a further extension of the police power of the state regarding the prevention and cure of disease and the intervention of surgery, so that the public health may be safe-guarded still further and more exact conditions be required "to enforce the social compact for the protection of life and health and the general weal of the community." He pointed out the public menace of a system which permits the devotees of osteopathy and Eddyism to make contracts to heal or cure or relieve any disease whatever without requiring of them any knowledge protecting the people against the disaster of contagion, and of not holding such healers liable for the infringements of the laws of the board of health. He asserted that the law should require of a practitioner of medicine and of all persons and agencies proposing or promising to treat or cure disease or deformity, a comprehensive knowledge of human anatomy, human physiology, pathology, obstetrics, hygiene, materia medica and the practice of medicine and surgery.

Journalism and Quackery.

MR. GEORGE W. OCHS, publisher of the *Public Ledger*, said the relation that journalism bears to quackery is not dissimilar to that borne by the medical profession, with the distinction that the latter is fortified by a definite code of ethics and is enabled to discriminate by expert knowledge. The honest journalist attempts to discriminate and in doing so makes great pecuniary sacrifices, yet the medical profession, as a rule, does not aid him, to any extent.

The chief agency for the sale of nostrums and the mainstay of the quacks is the newspaper. Their life is the newspaper; their sole source of sustenance, their single means of success, their only hope of existence is publicity—its widest opportunity and most effective agency being the newspaper. While there alone the trouble should be attacked by those in sympathy with the purpose, it should be remembered that a newspaper has but two sources of revenue: advertising and subscription, the latter being a negligible quantity. In attempting to curtail the advertising, the prudent publisher must act with discretion and conservatism. The approval of a right-thinking community does not liquidate the multiplicity of enormous expenses of a newspaper, unless, forsooth, public opinion be so educated that it will aid the journalist who makes these sacrifices by moral support, by persuading the discriminating public to buy that newspaper, and by systematically avoiding all other newspapers that insult intelligence and decency by a contrary course.

Mr. Ochs suggests that a union of all the medical forces into a well-organized, compact, efficient instrument to conduct the campaign by systematic, careful, persistent and continuous enlightenment concerning the real promoters of the evil, and the effective means of remedying it, will achieve triumphant success. The self-respecting newspaper will not commercialize its ethics any more than the honest practitioner. The absence of the advertisements of the nostrum vender and the quack from one newspaper is public notice that this sort of tainted revenue has been rejected by the publisher; their appearance in another is public notice that it seeks this business and that its journalistic code is written in different ethics. Thus the contrast stands clearly forth, and the offender, if such he be, may be pilloried in the market place to be penalized, if the public so decrees. Enlightenment, Mr. Ochs stated, can best come by the influence of the medical profession. Hence it lies with the profession, if effective results are sought, to concentrate all its energies and employ all its devices to awaken and vitalize this impulse of public opinion, which, once aroused, is irresistible.

What Can the Organized Medical Profession Do to Suppress Quackery?

DR. HENRY W. CATTELL first called attention to the duty of the profession to remove all causes of reproach in this matter from among its own ranks. Among these were mentioned the conducting of medical schools on a purely commercial basis and the lowering of standards. A contribution of money to a medical school too often secures a coveted teaching position in the institution. The securing of an appropriation from the legislature for hospitals, to say nothing of the illegal methods often employed to secure such appropriations, is another evil. Dr. Cattell contends that any hospital largely supported by funds from the state treasury should, under proper restrictions, permit others than those officially connected with it to treat their pay patients within its walls. He asserted that there are trusts in medicine as there are in every-day life, and pooling and rebates, and mergers are done as effectually by the medical profession as by railroads and other soulless business corporations. He arraigned the medical profession as responsible for the enormous sale of such preparations as Vin Mariani, which, it is alleged, a few years ago contained cocain. He said that in order to permit its sale under the laws of Pennsylvania the ingenious manufacturer had converted the cocain into bases. Much can be done to correct these evils by a united medical profession. Then would it be possible to effectively endorse the movement advocated by Professor Norton of Yale for the formation of a National Bureau of Health, whose head shall be a member of the President's Cabinet; and a society, such as the recently formed Public Health Defence League, would no longer be a necessity.

Deceptions in the Chemical Formulas of Nostrums.

DR. HENRY LEFFMANN said that the growing murmur against secrecy has at last reached the ears of some of the manufacturers, and has led a few of them to be frank and to make known clearly and distinctly what they sell; but in many other cases the pretended publication is merely a trick. Perhaps the richest field for such tricks is to be found in connection with the formulas of organic compounds. Organic chemistry is very complex, and its discoveries have outrun its nomenclature. Moreover, except as to the simplest compounds, the nomenclature is not uniform. It is therefore left to individual ingenuity to devise terms that may conceal ideas rather than convey them. Hence, a mixture of acetanilid and ammonium carbonate may appear as ammoniated phenylacetamid, thus not merely throwing the physician off his guard (as many may not know that phenylacetamid is a synonym for acetanilid), but leading one (even if he recognizes the substance) to believe that the preparation is a derivative of that drug, whereas it is merely a mixture. Then there is the late exposure of an attempt to put off on the profession a mixture of chloral and glycerol as a new and remarkable compound worthy of sesquipedalian title.

Some specific instances of deception in labelling were cited by Dr. Leffmann, taking them from cases that have come under his notice. In the northwest section of Philadelphia a druggist has been displaying prominently a liquid malt-extract, conspicuously labelled: "This is not beer," and claiming for it starch-digesting power. Analysis shows that it contains 6.5 per cent. of alcohol and no appreciable diastase. In a sense, the label is correct. The article is not a beer, but rather a strong ale, but the intention of the label is, probably, to lead the purchaser to believe that it is a non-alcoholic, or at least feebly alcoholic preparation. Certainly this is the impression that the label would convey to most people.

No more outrageous deceptions are practiced, he said, than those in the so-called concentrated, predigested or specialized foods. Meat extracts are sold by the ton under the pretence that they contain the nutritive matters of meat, whereas they consist almost entirely of the basic nitrogenous waste products, fit food only for microbes. Under a title indicating high nutritive quality, a liquid is sold containing 16 per cent. of alcohol and less than 1 per cent. of proteids, calculated from the nitrogen obtained.

In an article in the current number of the *American Journal of Pharmacy*, Prof. Charles H. LaWall reports the discovery of the use of acetanilid as a preservative in hydrogen dioxid. This has been done by several firms, one of high standing in pharmaceutic relations. When charged with the practice the makers admitted it. They said it was a "trade secret." The

label on one of the bottles of this adulterated preparation reads: "This product represents the highest chemical skill in producing absolute purity, potency and accuracy. We guarantee it to be strictly U. S. P. in all its requirements, meeting anticipation at all times."

Dr. Leffmann said that it is a well-worn accusation to declare that the profession is largely responsible for the existing state of affairs. Some time ago a druggist informed him that he had received from a reputable physician a prescription for a mixture of ammonol, antikamnia and phenacetin. In his teaching in medical chemistry he does what he can to warn intending physicians against any form of secrecy.

DR. JOHN B. ROBERTS, in opening the discussion, stated his belief that the people's resource to quackery is due to: 1. An erroneous belief that for every disease there is a special medicinal remedy which will cure it. 2. To the lying advertisements in secular and religious newspapers, published by editors, often clergymen, who, if intelligent and educated, must know that they are disseminating untruth. 3. To the unjustifiable use by doctors of nostrums of whose compounds they are ignorant. 4. To ignorant or careless physicians who are unable to give their patients such skilful treatment as modern medicine is able to furnish. 5. To the inordinately high fees of certain skilful medical practitioners, which render their services unattainable by many and lead to the belief that all doctors of ability are costly luxuries.

The first cause is due to the ignorance of the public of physiology and of the value of sunshine, fresh air, good water, exercise and hygienic and decent conduct. The second is due to the love of money, however tainted that money may be. The third and fourth were said to be largely due to the former existence of many low-grade medical schools, some of which still exist. The fifth was regarded as due to a lowering of professional standards to a commercial basis, so that to some doctors the size of the fee has become more important than professional honor and the alleviation of human suffering.

DR. S. SOLIS-COHEN agreed with Mr. Bok and Mr. Ochs that the medical profession should bring their united weight and individual effort to bear on the publishers of medical journals and on the publishers of daily newspapers. Following the plan of the Consumers' League of publishing a "white list" of manufacturers whose goods are recommended for patronage, it would seem to him perfectly proper for the Philadelphia County Medical Society to publish a list of the daily newspapers of Philadelphia which it recommends for patronage by its members and the public. It need not be said that such and such a paper ought not to be bought, but that a certain other paper is recommended.

Regarding the medical press he thought the members of the profession owed it to themselves never to purchase nor to contribute to medical journals which violate the ethical standard of the profession in the acceptance of nostrum advertisements. Each physician should examine his own daily practice, and if finding that he prescribes remedies concerning which he does not know the composition, he should at once correct the practice. Though not believing that so high a percentage as that quoted of the physicians of Philadelphia prescribe nostrums, if such fact exists, he declared it to be the duty of the County Medical Society to exericse its discipline over those members.

DR. HENRY BEATES emphasized the statement that many so-called physicians prescribe quack nostrums because of ignorance of the art of writing prescriptions, and deprecated the fact that medical colleges graduate a large percentage of men coming under this classification. Illustrative of the ignorance of some of the graduates of medicine, he cited an incident of a recent session of the State Medical Examiners. In answer to an examination question, the would-be practitioner of medicine has written: "We have two kinds of electricity, sporadic and foradic. Sporadic electricity is used intermittently and foradic is used continuously." Of nitrate of silver, which the same aspirant believes to be a fluid, he would administer a dose of "from one to two drops." Other similar examples were given. Dr. Beates suggested the advisability of putting on a screen such illustrations of the dense ignorance of some of the graduates in medicine, side by side with the diplomas showing the signatures of the men allowing them to graduate. Such instances, he thought, explained the prescribing of quack remedies by so many doctors.

Another cause of this prevalence is the inexcusable apathy of individual members of the profession. There should be organization of the medical profession with a definite purpose against quackery and in a protest against medical colleges graduating incompetent men.

DR. LYMAN F. KEBLER, chief of the laboratory of the Bureau of Chemistry, Department of Agriculture, spoke of the work in the laboratory at Washington, and gave many instances of the deceptions attempted by the manufacturers of nostrums and of prepared foods which had been detected in the enforcement of the pure food and drug law.

DR. GEORGE ERETY SHOEMAKER said that it should be understood that medical journals bear the same relation to the publishers as the daily newspaper, being published for the purpose of making money, and that a sharp distinction exists between the business end and the editorial end. There is, fortunately, one medical journal in the United States founded and controlled by the medical profession, THE JOURNAL of the American Medical Association. Reference was made to the splendid stand taken by the Association journal on the subject of nostrums.

DR. JOHN Q. MCDOUGALD expressed his gratification at hearing Mr. Barlow's explanation of the law and his opinion of the need of a law governing the practice of medicine. He cited a glaring instance of a quack doctor practicing without restraint of the law.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Nineteenth Annual Meeting, held at Baltimore, Dec. 11-13, 1906.

(*Continued from page 162.*)

Improved Method of Locating Foreign Bodies with the Roentgen Ray.

DR. ROBERT CAROTHERS, Cincinnati, said that the most important step in foreign body surgery is some definite or fixed idea of the location of the foreign body. The Roentgen ray has been of untold value in developing this step. Stereoscopy as applied to radiography, called stereo-skiagraphy, is the most improved method, and would seem to give the most accurate location of a foreign body. The ordinary Roentgen ray plate looks flat. The stereoscope gives a perspective view very much as if the parts (bone and bullet) were before one in nature. Two separate plates are made of the same part without changing the position of the part skiagraphed, which is placed on the compression diaphragm table (the compression diaphragm itself being discarded), on a hollow board or plate-holder, with a metallic bottom, so that the rays may be obstructed partially, and in this way one plate can be removed and a second supplied. The tube is held in the tube-holder, and with the use of a plumb-bob it is carefully centered through the part to be skiagraphed on to the center of the plate. The plates are made with the tube placed 1⅜ inches to either side of this central point, so that they are made from points 2¾ inches separated from each other, corresponding to the distance between the human eyes. The developed plates are placed in highly illuminated boxes facing each other, and are from them reflected into two small looking-glasses which are placed at a right angle to each other with the apex of the angle placed between the eyes of the observer in the stereoscope. One now looks into the two looking-glasses, each eye in a separate glass, sees a separate plate; then by adjusting the plates and the stereoscope to get an exact focus, the two plates are made to look as one, and it would appear that there is one looking-glass behind which the observer looks, reflecting the object back on to the retina, producing a perspective view. This method is of especial value in locating foreign bodies in the spine, thorax and abdomen, where it is almost impossible to get a plate which is not flat by any other method.

Surgical Treatment of Thyroid Disease.

DR. CHARLES H. MAYO, Rochester, Minn., reported 110 cases of exophthalmic goiter, with 9 fatalities, and but two of these were in the last 64 operations. In 2 cases of sarcoma and 6 cases of carcinoma there was one operative death, which occurred on the third day. Aside from the deaths recorded there was one death from pneumonia on the eighth day. Patients are prepared as to lung complications, and the rhythm and tension of the pulse, which should be carefully investigated, as they are the danger signals.

Very rarely is local anesthesia employed, the preference being for the open drop method of giving ether. The patients receive from 1/120 to 1/150 grains of atropin and 1/6 grain of morphin, 20 to 30 minutes before the giving of the anesthetic. The position of the patient is head up (reverse Trendelenburg), with a roll of gauze under the neck to elevate small tumors. A transverse collar incision is made through the skin and platysma muscle, the sterno-hyoid muscles being separated at the mid-line. In exophthalmic goiter and complicated cases, the anterior muscles on one side, at least, are severed as high as possible over the thyroid to preserve the nerve supply and break the scar effect. Cysts and encapsulated growths are enucleated. Other goiters are extirpated, care being exercised in preserving the parathyroids to prevent tetany and in protecting the recurrent laryngeal nerves. In this one is aided by leaving the posterior capsule of the gland in the extirpation. Sufficient gland substance should be preserved to prevent myxedema and, as it depends on the character of the gland, no definite rule can be given as to what constitutes the proper amount.

DISCUSSION.

DR. GEORGE W. CRILE, Cleveland, said that in a series of 114 operations on the thyroid gland his experience compares very well with the conclusions reached by Dr. Mayo, with the exception that he has been unable, thus far, to get as low a mortality as Dr. Mayo reported from operations in the presence of hyperthyroidism. In the late cases of colloid goiter of long standing, if symptoms of exophthalmic goiter appear, he has found that operations on this class are comparatively simple and safe. Young persons with acute exophthalmic goiter coming on without previous goiter apparently, appearing with other symptoms, he has found to be great risks from an operative standpoint. Of the 114 operations on the gland, there were 5 cases of carcinoma and 5 of sarcoma. In one of the cases of carcinoma he noticed unmistakable symptoms of exophthalmic goiter. He has not had a fatality in any case engrafted on a chronic goiter, but he has had three deaths in 20 cases of acute exophthalmic goiter following operations.

DR. RANDOLPH WINSLOW, Baltimore, has been particularly interested in the anesthetic employed in these cases. Personally, he has been making use of scopolamin-morphin anesthesia by injection as a means of general anesthesia, and the infiltration of the skin with the Schleich solution for strictly local anesthesia, and finds that it works very well. The patients, as a rule, do not complain.

Toxemia of Pregnancy.

DR. W. M. JORDAN, Birmingham, Ala., called attention to the non-specific nature of the liver lesions in cases of toxemia of pregnancy, and said that much the same character of changes occurred in toxemias from other causes. There is a decided tendency for toxemia patients to get worse after the uterus is emptied, except in the case of eclampsia, which for special reasons is not considered in this paper. The cause of this is attributed to a probable increase in the pre-existing toxemia through the addition of toxins resulting from the process of involution of the uterus. For this reason pregnancy should be terminated at an earlier date than would otherwise seem necessary, as this probable postpartum increase in the toxemia must be allowed for. Attention is called to the probable unfavorable influence of anesthesia, as most of the inhalation anesthetics are to some extent liver poisons. Jordan advises that pregnancy be terminated as soon as it becomes evident that the symptoms are of toxemic origin.

(*To be continued.*)

Medical Legislation

CONFERENCE OF THE COMMITTEE ON MEDICAL LEGISLATION AND THE NATIONAL LEGISLATIVE COUNCIL.*

Annual Meeting, held in Washington, D. C., Dec. 13-15, 1906.

(*Continued from page 155.*)

Committee of One Hundred to Aid in Securing a Department of Health.

PROF. IRVING FISHER of Yale University: Mr. Chairman, Ladies and Gentlemen: I want to say at the outset that I was more than delighted to hear the remarks both of the chairman and Dr. Barchfeld, and I was particularly delighted to see the definite form in which he had drawn up the proposal of the National Department of Health. The American Medical Association for a number of years, about twenty I think, has been in favor of establishing a National Department of Health. I think, now that the comprehension and coöperation of other organizations is more or less assured, the outlook for such a department is very bright.

The Public Health Defense League to which the chairman referred, I note from the public press, has committed itself to the advocacy of a National Department of Health, and the economic section of the American Association for the Advancement of Science, of which I am chairman, has in like manner committed itself. At the last meeting, held at Ithaca, in June and July, a paper was read by my colleague, Professor Norton, of which I had a number of copies printed for distribution here, and which many of you no doubt have seen, in favor of a National Department of Health, from the standpoint of economics, discussing in detail the economical advisability of a National Department of Health.

This problem has many relations other than medical. After this paper was read it was voted that I, as chairman of the section, should appoint a committee to keep the subject alive and to consider the best methods of achieving the ends of Professor Norton's paper. I have been engaged during the last few months in selecting and appointing that committee, and I have been astonished at the unanimity of approval which I have received. I think there were only about a dozen declinations, and in almost every case the declination was accompanied by a statement of approval of the object of the committee, the declination being on the ground of advancing years, or occupation in such a way that the incumbent could not give proper attention to the committee. I received for instance, a letter from Grover Cleveland declining to serve on the committee on these grounds, but authorizing me to state that he was definitely in favor of the plan.

I have called this a Committee of One Hundred, although there are so many others that I would like to have invited to become members of the committee, but I thought that a committee larger than one hundred would scarcely be a committee, but rather a petition. It seemed to me that the strength of this particular movement would lie in the fact that it was endorsed by the American Association for the Advancement of Science, and consisting, for the most part of laymen.

CONNECTED WITH THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Dr. William H. Welch, President, American Association for the Advancement of Science, and of State Board of Health of Maryland: Professor of Pathology, Johns Hopkins University.

Prof. Irving Fisher, Chairman of the Committee of 100 and of Economic Section American Association for Advancement of Science; Professor of Political Economy, Yale University.

J. Franklin Crowell, Secretary Economic Section American Association for the Advancement of Science: Editor *Wall Street Journal.*

Prof. J. P. Norton, author of paper on National Health Department read before American Association for Advancement of Science, on the basis of which the committee was appointed: Professor Political Economy, Yale University.

Prof. James McKeen Cattell, Editor *Science*, the official organ of the American Association for the Advancement of Science; Professor of Psychology, Columbia University.

CONNECTED WITH THE UNITED STATES GOVERNMENT.

Dr. Robert M. O'Reilly, Surgeon-General, U. S. Army.
Dr. P. M. Rixey, Surgeon-General, U. S. Navy.
Col. William C. Gorgas, Sanitary Officer, Isthmian Canal.
Dr. H. W. Wiley, Chief Bureau of Chemistry, Dept. Agriculture.
L. O. Howard, Chief Bureau Entomology, Dept. Agriculture.

* The complete record of the conference (from which this report is an abstract) has been published in book form and can be obtained on application to the American Medical Association, Bureau of Legislation, 103 Dearborn Avenue, Chicago. *

Dr. Cressy L. Wilbur, Chief Statistician, Vital Statistics, U. S. Census.
A. C. True, Director Office of Experiment Stations, Dept. Agriculture.
Chas. P. Neill, Commissioner of Labor, Dept. of Commerce and Labor.
James R. Garfield, Chief Bureau of Corporations, Dept of Commerce and Labor (now Secretary of the Interior).
Gifford Pinchot, Chief Forester, Dept. of Agriculture.
Max J. Baehr, U. S. Consul, Cienfuegos, Cuba.
A. D. Melvin, Chief of Bureau of Animal Industry, Dept. of Agriculture, Washington.
Amos P. Wilder, U. S. Consul, Hong Kong, China.
Gen. Leonard Wood, Gov. of Moro Province, Philippines.
(I was sorry that I could not persuade Dr. Wyman to allow me to add his name to this list.)

CONNECTED WITH STATE AND LOCAL GOVERNMENTS.

Dr. A. C. Abbott, Health Officer of Philadelphia.
Dr. Thos. Darlington, Health Officer of New York.
Dr. Alvah H. Doty, Health Officer, Dept. of Quarantine, New York.
Dr. John S. Fulton, Sec. Maryland State Board of Health.
Prof. Chas. Harrington, Sec. Mass. State Board of Health, Professor Hygiene, Harvard Medical School.
Dr. Charles D. Smith, State Board of Health, Portland, Me., Prof. Physiology, Bowdoin College; Supt. Maine Gen. Hosp.

CONNECTED WITH MEDICAL AND HYGIENIC INSTITUTIONS AND ASSOCIATIONS.

Dr. Joseph Bryant, President-elect American Medical Association.
Dr. George H. Simmons, Secretary American Medical Association.
Dr. Charles A. L. Reed, Chairman Legislation Committee of American Medical Association.
Dr. Hermann M. Biggs, Pres. Nat. Assn. for Study and Prevention of Tuberculosis.
Prof. Livingston Farrand, Sec. Nat. Assn. for Study and Prevention of Tuberculosis.
Dr. C. O. Probst, Sec. Amer. Pub. Health Assn., and Ohio State Board of Health.
Prof. L. Emmett Holt, Sec. Rockefeller Institution.
Dr. J. H. Kellogg, Supt. Battle Creek Sanitarium.
Dr. Prince A. Morrow, Pres. Amer. Society Sanitary and Moral Prophylaxis.
Dr. Dudley A Sargent, Pres. Boston Health League.
Luther H. Gulick, Pres. Amer. Physical Education Society.

PHYSICIANS AND HYGIENISTS.

Dr. Frank Billings, Pres. Assn. Amer. Physicians; Prof. of Medicine, Rush Medical College.
Dr. Henry B. Favill, Prof. of Therapeutics, Rush Med. Coll.
Dr. P. M. Jones, Editor *Jour. California Med. Assn.*
Prof. E. O. Jordan, Editor *Jour. of Infectious Diseases.*
Dr. Quitman Kohnke, formerly Health Officer of New Orleans, Covington, La.
Dr. Richard C. Newton, formerly Editor *Jour. N. J. Med. Assn.*, Montclair, N. J.

CONNECTION WITH OTHER ASSOCIATIONS AND INSTITUTIONS FOR HUMAN BETTERMENT.

Felix Adler, Pres. Ethical Culture Assn.
Miss Jane Addams, Hull House, Chicago.
C. Loring Brace, Sec. Children's Aid Society.
Mrs. Melvil Dewey, Sec. Lake Placid Conf. on Home Economics.
Prof. S. M. Lindsay, Sec. Nat. Child Labor Com.
E. R. L. Gould, Pres. City and Suburban Homes Co.
Mrs. Ballington Booth, Volunteers of America.
Edw. T. Devine, Gen. Sec. Charity Organ. Soc., N. Y.
Rev. Josiah Strong, Pres. Amer. Inst. of Social Service.
John Graham Brooks, Pres Nat. Consumers' League.
Adna F. Weber, Sec. Amer. Assn. of Labor Legislation.
Prof. Jeremiah W. Jenks, Pres. Amer. Econ. Assn.
Robert Treat Paine, Pres. Amer. Peace Assn.
Dr. Daniel C. Gilman, Pres. Nat. Civil Service Reform League.
William R. George, "George Junior Republic."
Robert Woodward, Pres. Carnegie Institution, Washington.
J. Eugene Whitney, Sec. People's University Extension Society, New York.

EXPERTS ON VARIOUS PHASES OF HEALTH WORK.

Prof. Francis C. Benedict, Prof. of Chemistry, Wesleyan University.
Dr. Jaques Loeb. Prof. Physiology, Univ. of California.
Prof. M. E. Jaffa, Prof. of Chemistry, Univ. of California.
Prof. Ellen H. Richards, Prof. of Sanitary Chemistry, Mass. Inst. of Technology.
Prof. Franklin C. Robinson, Prof. of Chemistry, Bowdoin College.
Prof. F. F. Wesbrook, Prof. of Pathology and Bacteriology, Univ. of Minnesota.
Prof. Samuel H. Woolbridge, Prof. of Heating and Ventilating, Mass. Inst. of Technology.
Dr. Wm. T. Councilman, Harvard Med. School, Boston.

CONNECTED WITH EDUCATIONAL INSTITUTIONS.

Pres. James B. Angell, Pres. Univ. of Michigan.
Dr. J. S. Billings, Librarian Public Library of New York.
Prof. H. R. Chittenden, Director Sheffield Scientific School, Yale University.
Pres. Chas. W. Eliot, Pres. Harvard University.
Pres. Arthur T. Hadley, Pres. Yale University.
Pres. G. Stanley Hall, Pres. Clark University.
Miss Hazard, Pres. Wellesley College.
Booker T. Washington, Supt. Tuskegee Institute.

CLERGYMEN AND LAWYERS.

Rev. Lyman Abbott, Editor *Outlook.*
Rev. W. G. Eliot, Portland, Ore.
Rev. C. H. Fowler, M. E. Bishop, New York City.
Rev. Edw. Everett Hale, Chaplain U. S. Senate.
Rt. Rev. John Ireland, Archbishop, St. Paul, Minn.
Prof. James B. Ames, Dean Harvard Law School.
Hon. Ben. S. Lindsay, Juvenile Court, Denver.
Hon. John D. Long, Ex-Sec. of Navy, Ex-Gov. of Mass.
Hon. Wm. K. Townsend, Judge U. S. Circuit Court of Appeals.

MISCELLANEOUS.

Prof. Liberty H. Bailey, Prof. Agriculture, Cornell Univ.
Luther Burbank, Horticulturist, Santa Rosa.
Andrew Carnegie, Philanthropist.
James H. Causey, Health and Political Reform, Denver.
Miss Grace H. Dodge, Working Girls Soc., New York City.
Thos. A. Edison, Inventor.
Horace Fletcher, author of books on health.
Prof. Harry A. Garfield, Prof. of Politics, Princeton.
Prof. Franklin H. Giddings, Prof. Sociology, Columbia Univ.
Prof. C. R. Henderson, Prof. of Sociology, University of Chicago.
Mrs. Mary F. Henderson, author of books on health.
John Mitchell, Pres. United Mine Workers.
Melville E. Stone, Gen. Mgr. Assoc. Press.
Talcott Williams, Editor.
Michael Vincent O'Shea, Madison, Wis.

This completes the reading of the Committee of One Hundred. You will notice that in that committee there are a few lawyers, whose services, I think, would be gladly given for the purposes mentioned by Dr. Barchfeld, and I would like to ask, if I may, of Dr. Barchfeld one hundred copies of his bill, to distribute among the members of this committee. I am sure I can make good use of them.

No member of Congress is on the committee, for the reason that, as soon as I began to speak with congressmen on the subject, I was met with the reply that they did not wish to commit themselves in advance and in public, but wished to wait until the bill was brought before them, when they could act with a free mind, although a number of them expressed themselves as thoroughly in sympathy with this movement. (Applause.)

SURGEON GENERAL WALTER WYMAN, U. S. Marine-Hospital Service: Mr. Chairman, will you permit me to make a short statement. There was nothing in my deeming it best not to go on that committee to indicate any opposition to it. I so expressed myself in my letter to Dr. Fisher, but the position I hold would make it seem to me preferable to all concerned in every way that I should not be on that committee. I just wanted to make that explanation.

THE CHAIRMAN: It is proper, I think, that I should say something to this subject which has been presented. In the first place, I want to apologize to this Council, as I have apologized to Dr. Barchfeld, for our failure before coming here at the opening of the last session of Congress to find out that we really had three members of the medical profession in that body. We knew about the Senate, where we have two members. But we had looked so long in vain that really we had quit looking. I feel that this Council and the entire medical profession of America is indebted to Dr. Barchfeld for his splendid initiative in taking up this work.

Now in regard to this bill: It obviously covers, in general terms, everything that is going to be required. The question of detail, the doctor has left in blank, and he left it in blank very obviously for the reason that he wishes to have it licked into constitutional shape, with such legal provisions and such phraseology and such form as would enable it to stand muster in the Supreme Court of the United States. This Council took action that would have enabled us without any further delay to have submitted this bill. We asked for the appropriation but it did not come. The strings to the purse of the Association are held by the trustees. I brought this question to the attention of the House of Delegates, under the rather mistaken idea that the House of Delegates ran things in the American Medical Association, and that body, laboring under the same misapprehension, by a very specific action, appropriated $1,000, or as much of the same as might be necessary, to employ an attorney for this very purpose. That action was arbitrarily reversed by the trustees and the expenditure was denied. I think, with Dr. Barchfeld, and I have no hesitancy in expressing it here, and I express it for the purpose of record, so that it may appear in THE JOURNAL, where it may go to every member of the Association, that the action on the part of the trustees was seriously a mistaken action. And I believe that when they—the members, the House of Delegates and the trustees—come to see this question as evolved by Dr. Barchfeld they will be more actively impressed. And, furthermore, now that this splendid influence has been brought to us by Professor Fisher; now that we have been shown this grasp of the subject by Professor Norton in his paper read before the American Association for the Advancement of Science, which is simply an illumination on this subject, we can present it in a clarified form before the general public.

Now, with Dr. Norton's contribution and with this bill of Dr. Barchfeld's, submitted through Dr. Fisher to an executive

committee of the Committee of One Hundred, which will take up and thrash out these questions, let us hope that the matter will be speedily brought to a focus, so that it can be placed in Dr. Barchfeld's hands for presentation to the National House.

This Council has taken the position from the beginning of its existence that no measure be endorsed by this Association or by this body acting for the Association, unless we had a reasonable assurance as to its legal form so that it would pass muster both in the House and in the courts; for that reason we have hesitated to act more promptly than we otherwise would have done.

The Bill for the Relief of Dr. James Carroll.

Dr. von Mansfelde (Nebraska) introduced a resolution relative to the Bill for the Relief of Dr. James Carroll. Referred to a committee consisting of Dr. A. S. von Mansfelde (Neb.), Dr. C. Z. Aud (Ky.), and Dr. S. D. Van Meter (Colo.).

The Osteopath Bill.

The chairman called up the Osteopath Bill for the District of Columbia, which was read in full. Its salient features were the following:

Section 1. That there shall be, and is hereby, created a board of osteopathy examiners, to be composed of five physicians in good standing, adherents to the osteopathic system of practice, to be appointed by the Commissioners of the District of Columbia. Of the members of the board first appointed, one shall be appointed to serve one year, two to serve two years, and two to serve three years, or until his or her successor be appointed: *Provided*, That no member of the board shall have been engaged in the practice of osteopathy in the District of Columbia for less than two years at the time of his or her appointment.

Sec. 3. That from and after the passage of this Act all persons desiring to practice osteopathy in the District of Columbia shall apply to said board for license to do so. Applicants shall submit to examination on the following-named branches, to-wit: Anatomy, physiology, chemistry, pathology, principles and practices of osteopathy, hygiene, histology, surgery, obstetrics and gynecology, medical jurisprudence and such other branches as said board shall deem advisable; but said board shall not examine any applicant until satisfactory proof is furnished that he or she is of good moral character and over twenty-one years of age, nor until he or she has presented a diploma issued to him or her by a reputable college of osteopathy, which, at the time the said diploma was issued, required personal attendance on a course of instruction of not less than twenty-seven months. All examinations shall be both theoretical and practical and of sufficient severity to test the candidate's fitness to practice osteopathy. All questions propounded for the examination of applicants except such as relate specifically to the treatment of disease, shall be the same questions propounded to applicants for licenses under the provisions of an Act entitled "An Act to regulate the practice of medicine and surgery, to license physicians and surgeons, and to punish persons violating the provisions thereof in the District of Columbia," approved June third, eighteen hundred and ninety-six; and the answers submitted by applicants for licenses to practice osteopathy shall be marked on a scale of equivalent severity to that adopted for the marking of the answers submitted by applicants for licenses to practice medicine. To the end aforesaid the president of the board of osteopathic examiners, in so far as relates to the selection of questions to be used in examinations and in so far as relates to the rating of the answers to said questions, whether questions propounded to or answers submitted by applicants for licenses to practice osteopathy or for licenses to practice medicine, shall be entitled to all the rights and privileges of the president of the several boards of medical examiners of said District.

Sec. 6. That the examination referred to in Section three shall be conducted orally and in writing, in accordance with the rules and regulations prepared by said board.

Sec. 7. That if in the opinion of a majority of the board of medical supervisiors, sitting together with the president of the board of osteopathic examiners, and in the opinion of a majority of said board of osteopathic examiners, said applicant has fairly and successfully passed such examination as hereinbefore provided for, the board of osteopathic examiners shall, as soon thereafter as possible, issue to him or her a license signed by the president and the secretary of said Board and attested by the seal of the District of Columbia, which license shall entitle said applicant, after it is registered as hereinbefore provided to practice osteopathy in the District of Columbia. Every bona fide holder of a diploma issued by a reputable college of osteopathy who was practicing osteopathy in the District of Columbia on the first day of January, nineteen hundred and six, shall, upon application, made within one year after the passage of this Act, and the payment of a fee of five dollars, be granted a license without examination by said board. The license provided for by this Act shall not authorize a holder thereof to give or prescribe drugs for internal use. All licenses issued by said board shall be numbered consecutively, and a register shall be kept by the secretary showing the number of each license, the date of issue, and to whom issued.

Sec. 8. That the board of osteopathic examiners of the District of Columbia, be and is hereby, authorized and directed to license to practice osteopathy in said District without examination, any applicant for such license who had been engeged in the practice of osteopathy in any other jurisdiction, whether a state or territory, or insular possession of the United States, or a foreign country.

THE CHAIRMAN: This bill is now before you for consideration. I will first ask Dr. Sowers, representing the Medical Society of the District of Columbia, to speak on the question.

DR. Z. T. SOWERS, of the District of Columbia: Mr. Chairman, I thought it would be wise, in order to bring the matter intelligently to the profession, to distribute among the members a few copies of the bill, our protest to the bill and the reply to that protest.

I will briefly state the situation, but our arguments against the bill are presented here in detail and it is more easily gotten at by reading it in the printed form.

This bill was first introduced by Senator Foraker in the Senate or in the Senate committee, but it was not until it had received the attention and consideration of the committee, nor until it had passed the committee, that the profession of Washington knew anything about it. The bill was brought in by Senator Foraker, who was chairman of a subcommittee to which these matters are referred, and the courtesy in the Senate toward its different members, and more especially toward its different committees and subcommittees is so great, that there is very little difficulty in getting such bills through the Senate committee as a whole if they are introduced from such a committee. That bill, introduced by him, came up and, without any trouble whatever, the bill, through the influence of Senator Foraker, passed the Senate committee of the whole. It then went to the Senate and the same courtesy exists there which paralyzes almost anything you want done in the Senate or any opposition you might raise. But the Committee of the Medical Society here interviewed quite a number of the senators, some fifteen or twenty, and got their opposition and they promised to oppose the bill, and I believe it would have been defeated if it had been brought up when the members of the Senate were in the room.

The patron of the bill, Senator Foraker, very adroitly waited until three days before the adjournment of Congress. I had had it arranged so as to be notified when the bill came up. I was watching for it in order to have the different members who were opposing it brought in. I received a telephone message that the bill was up, brought up by Senator Foraker, and that there were only ten or twelve members in the room. The question of a quorum was not raised, and the feeling of courtesy toward him made it impossible to do anything at all, and the bill was read and passed. In the meantime I asked some of my aides up there to go and find these different members who were going to oppose the bill, among them Senator Spooner, who was to be with us to-day. Every one of these men were in their committees, and before they could get to the floor the bill passed the Senate.

I mention this to show you that there is really a very great opposition in the Senate to the passage of this bill if we can bring it to bear.

After it passed the Senate it went over to the House, and now it is before the House in committee on the District of Columbia.

DR. BARCHFELD: What committee of the House is it before?

DR. SOWERS: The District of Columbia Committee.

DR. BARCHFELD: I want to say that you need not fear the passage of this bill. There is too much good sense in the House Committee on the District of Columbia, and I have confidence in the stability of that committee.

DR. SOWERS: In regard to that I would like to say that I have an intimate acquaintance with some of its members, and I saw them yesterday, including its chairman, and I asked him what he thought, and he said that there were some very strong advocates of osteopathy in the House and in that committee and he thought it would be just as effective there as in the Senate, but he personally would do all that he could to oppose it.

Now, we have got to look at it just as though it was in great danger of being passed. We must not permit ourselves to imagine that they have sense enough to prevent the passage of a foolish bill simply because it has just passed the Senate. The same thing will occur in the House, unless we use influence enough to prevent its passage. They all want to do the right thing, but they are so in the habit of being approached by people with something up their sleeves that they are always on the lookout. Now, Dr. Barchfeld, being a member of Congress, presenting a thing likt that, would have more influence than forty of us.

DR. S. D. VAN METER, of Colorado: Mr. Chairman, I feel that this is of such vital importance to the medical profession throughout the United States that it should be made a matter of general referendum. It is especially dangerous, since it strikes at the very fundamental basis of the practice of medi-

cine throughout the United States. If this bill should pass the national body, it would be used as a lever in one-half the states of the Union to secure a similar bill by the osteopaths in those states, and, therefore, I would move you to make it a matter of general referendum.

DR. S. D. PRESBREY, of Massachusetts: I would like to second that last motion, if you please, and to say that, as the representative from Massachusetts, it is a subject that comes very close to me, as I happen to be a member of a similar committee to that of your Chairman in the Massachusetts Medical Association and in the State Legislature. We have had to meet this condition. Each year there has been an effort on the part of the osteopaths to gain some kind of a foothold. I can not exactly state what the foothold was, but once, I think, it was to get an incorporation of some kind of an educational system that was supposed to be osteopathic, and at another time one clause was that they should have one or two representatives on the Board of Registration, in order to make sure that their people would be admitted and registered as physicians. At this very meeting I heard this question asked, which has been referred to here, What is osteopathy? What is it? You get nothing but vague and general talk, and it is not this, and it is not that, and somebody says, "Massage is a pretty good thing," and they say, "This is not massage." Then you say, "Then tell us what it is," and they say, "Our people teach exactly what you teach to students of medicine, except that they are not taught anything about medicine." That was the sort of thing that was brought up and we had to fight it. So far we have come out successfully. There is nothing on the Massachusetts statute books in favor of osteopathy. I do not know whether there will be something this year or not. I suppose we have got to be up and fighting again, and I do not want something passed here that will be thrown back in our faces.

DR. S. D. VAN METER, of Colorado: Mr. Chairman, is it in order to discuss the question as to the prevention of osteopathic legislation at this time?

THE CHAIRMAN: That is the question now under consideration.

DR. S. D. VAN METER, of Colorado: I would like to occupy a few moments time on this proposition of preventing osteopathic legislation, especially as to one point that I feel is very vital.

I am speaking not from a theoretical point of view, but from a practical point of view, having had to fight the proposition in the State of Colorado during the sessions of the last three assemblies of that state. My position is well defined in this paragraph, in the paper I read in California some time ago, in which I called attention to a weak point of the law which would allow osteopathic legislation to come into that state. I then said that the good that has been accomplished by the refusal of licensing bodies to admit to examination those applicants whose preliminary and collegiate training has not been equivalent to a minimum schedule approved and accepted by such bodies has already been mentioned. It may seem a distinction without a difference to say that it would have accomplished just as much good in elevating medical education had the boards incorporated in their rules and regulations the same schedule of minimum educational requirements as being conclusive in the majority of cases that applicants having pursued an inferior course of training would be considered unqualified. In the application of any principle we should look carefully ahead and if possible avoid any concomitant effect. What have been the other results of insisting on prerequisites to examination of medical licensure? Nothing, did we have to reckon with members of the medical profession only. Unfortunately we have to consider the position in which it places us when prosecuting cases of violation of these statutes. The possibility that an occasional applicant might become qualified by a course of study taken in a college not living up to the adopted requirements offers a foundation for a plea of monopoly pleasing to the average jury and often encouraged by our courts who frequently, notwithstanding the great knowledge they arrogate to themselves, are decidedly short on matters medical. Furthermore, no other provision in our medical laws has been so much to blame for that ridiculous condition of separate boards by different medical sects. Coupled with the further unnecessary provision of examination on materia medica and therapeutics it has been most effective in keeping medical sectarianism alive; and to-day, when the educated physician body has so many phases of charlatanry to deal with, it is well to consider most carefully such points. At this time New Jersey and New York are compelled to put forth no little energy to prevent the enactment of a law regulating osteopathy. What would they lose by granting the privilege of these pseudo scientists to apply for license and take the board examination if they wish to assume the offices of a physician? Nothing! But it would at once sweep from under these latter-day disciples of Cagliostro every vestige of the footing on which they stand in asking for an act ostensibly to regulate a system of poor massage, but in reality designed to create an easy door to the legal practice of medicine. It matters not how specious be their plea, it sounds very plausible to legislators. I have heard it so often me-thinks I could close my eyes and hear the reverberations of those words as spoken by the oleaginous tongues of their lobbyists. Their story runneth thus: "Why, we are thoroughly qualified to practice the healing art—are ready to stand the most rigid test, but, according to the laws of the state, we are not even permitted to apply for examination unless we take a course of instruction in medicine in which we dot not believe." Gentlemen, I have lost more than one hour of needed slumber seeking a neutralizer for this unctuous hypocrisy, and it is with great pleasure I can, from experience, say that the removal of all prerequisites to application for license is more disconcerting to a host of osteopathic lobbyists than a regiment of Japanese soldiers would recently have been to a lone Russian scout.

Following that, I wish to read from the *California State Medical Journal* of November, this year, remarks on osteopathy from their ex-president. This, gentlemen, is after they enacted their law and is what their ex-officer said:

> Five years experience authorizes me to attribute the high percentage of failures during the last year to the presence of new examiners on the board. One year, at least, is required to familiarize oneself with the subject of examination, and the study of the law may necessitate an additional year or two. The new examiner, however lofty his purpose be, can not prove an immediate success; he will almost invariably strive to display the extent of his own learning rather than test the applicant's knowledge. Complex, obscure, and catch questions characterize the work of the new examiner. As proof of this contention, I beg permission to cite the markings in the subject of obstetrics, held by a new member of the board. At the August examination, 67 out of 70 applicants failed; whereas, at the corresponding examination the year previous, obstetrics being in the hands of an older examiner, not a single applicant failed. The disturbing element represented by the new examiner is apparently well recognized by the Homeopathic State Society, for the two Homeopathic members of the board have remained at their post since their election in 1901. Of the five regular pioneers, only one remains on the board.
>
> Osteopathy.—The price paid for our medical law was the Osteopathic Act, which authorizes its licentiates to practice osteopathy and minor surgery. In reality they practice medicine, surgery, obstetrics and the various specialties. The price was already too great in 1901. To-day it seems fabulous. During the past five years 490 licenses have been granted by the Osteopathic Board, on presentation of diplomas, i. e., without examination. California harbors three colleges of osteopathy. Illegal practitioners of medicine and applicants rejected by the medical board supply a considerable and constantly increasing percentage of osteopathic licentiates.

DR. A. J. BARCHFELD, M. C., of Pennsylvania: Mr. Chairman, I am going to ask you to do something that I will try to carry out for you, namely, I am going to ask you to petition the three members of the profession in the House of Representatives to constitute a committee to act before the Committee on the District of Columbia for the purpose of killing this bill. That is what I am going to ask you to do. (Applause.)

DR. W. A. SPURGEON, of Indiana (alternate for Dr. John N. Hurty): The introduction of this bill, and the possibility of its passage in the District of Columbia, presents a formidable feature which is more extensive and which is more far reaching than the mere inherent virtues of the question alone. I rise, Mr. Chairman, to make just one suggestion, and that is that the legislator, whether he be a national or a state legislator, as a rule looks on these questions of medical legislation in an entirely different light and from an entirely different viewpoint from you or me. They do not see these questions as we see them until we can get to them with propositions on a broad basis and on a high plane. They will turn us down every time. We can go to them and say that we as a medical profession are at war with special legislation with reference to the position or the attitude of any particular school. They will fail to understand us. You understand it, but the average legislator fails to understand that proposition. He looks on it as a professional or as a sectarian fight, and you will be defeated every time. You must put this question on a high plane. You must strike at this question from a more vital standpoint than from the standpoint of a profession, in my judgment. I have been through the mill just a little on this proposition, and I say to you that unless there is something inherently in

that bill which strikes at the cause of education, that strikes at the welfare of the common people, unless there is something there which sends a dagger to the heart of the interests of the great rank and file of the people, you can not control your legislature on that question from a sectarian standpoint. You can not approach it in that way, and you will get defeated. It has been done in the states; it may occur in the District of Columbia.

I just rise to offer this suggestion, that if in that measure there is a direct thrust at the educational standard in medicine, if it is there, you can take that as a club and you can thrash the very life out of the measure. (Applause.)

But, as a rule, you can not do it on any other basis. You must show the average legislator in this country the measure is inherently wrong in itself, as it has to and as it touches the interests of the great rank and file of the people who are their constituency. We have got to learn that lesson. We have got to fight these battles along that plan, and until we do that we are going to get defeated.

And, while I do not think that I have listened to a paper that was better in itself, more extensive in itself—while I do not know when I have listened to anything that pleased me better than the Chairman's address, yet he referred to a thing in that address that, in my judgment, is a mistake; for when you raise the question, when you mention the name, when you advertise the question of sectarianism, at any time, you boost its interests, you advance it. The way to the unification of the great medical profession of this country to-day, I believe, is in ignoring the existence, as far as possible, of sectarianism. Let it be forgotten. It is an unfortunate condition in this country. Let us bury it in forgetfulness as rapidly as possible, so that every qualified man, whether he be of one school or another, may recognize the fact that his very existence depends on qualification and not at all on sectarianism.

The main point that I want to insist on here is that you take into consideration in this fight special legislation, the fact, which nearly always occurs, that it is a thrust, that it is a blow, at the educational standards in medicine, and so it is nine times out of ten. It has been so in the states. It is probably so here. You will generally find that it is putting down the bars so that one class of men may cross over where the fence is lower.

Let us say to the osteopaths; let us say to the homeopaths, to the regulars, and to every man that we meet on a common plane, that we all submit to tests that are alike, and that these tests are the high tests that determine a man's efficiency and proficiency in the business of practicing medicine and surgery in this country. When we can say that and ask, in the name of the great cause of education in this country, that the bars be put down for no man, but that all measure up to the same standard, I think, then, that you will get a hearing.

DR. A. S. VON MANSFELDE, of Nebraska: I want to say one word in regard to the remarks of the gentleman (Dr. Spurgeon) who just preceded me, and that is that in a court of justice we are in the habit of calling a defendant's name, and this is the court before which this osteopathic business is pending, and the defendant's name must be mentioned.

Now, I move you, Mr. Chairman, that we respectfully petition, through the officers of this Council, the three members of the House of Representatives, who are members of our profession, that they appear before the Committee on the District of Columbia and present the cause of the people in regard to this legislation and, if possible, convince that committee that it will be a great, great mistake, an injury to the people, if such a bill as that is passed.

DR. S. D. VAN METER, of Colorado: I second that motion.

After remarks by Drs. von Mansfelde and Sowers the motion was carried.

(Whereon, at 12:45 the Conference adjourned to meet the next morning at 9:30 o'clock, with the understanding that visits be made during the afternoon to members of Congress.)

OPEN SESSION.

FRIDAY MORNING, DEC. 14, 1906, 9:30 O'CLOCK.

THE CHAIRMAN: Gentlemen, the first report is on the Army Medical Reorganization Bill, of which committee Dr. Bacon of Chicago, is chairman, but, in his absence, Dr. J. F. Percy, representing the State of Illinois, will present the report.

DR. J. F. PERCY, of Illinois: Mr. Chairman, I have the honor of submitting the report of the subcommittee on the Army Medical Reorganization Bill as follows:

To the National Legislative Council:

The members of the Council will remember that at the time of the last meeting of the Council, that is, last June, the Army Medical Bill had passed the Senate after scrutiny and long debate, with but five dissenting votes. The House Committee, General Hull, Chairman, gave our Council an informal hearing on the merits of the bill April 4, the House Committee reported the bill favorably with but few modifications—the number of colonels being reduced from 16 to 14, the lieutenant colonels from 24 to 20, and the majors from 110 to 100. The bill did not get a vote in the House before the close of the session in spite of considerable effort to induce Speaker Cannon to let the bill come to vote, made by the members of the Council and by the American Medical Association itself while assembled in Boston.

During the vacation of Congress some effort was made to get congressmen to support the bill. The Council and the county auxiliaries have also had the coöperation of several prominent physicians not members of our bodies. In particular, we sought the support of Hon. George Prince of the Fifteenth Illinois Congressional District, and a member of the House Committee on Military Affairs. We are glad to report that Mr. Prince has promised his valuable support to the bill. Efforts to secure the support of Speaker Cannon have resulted in getting his promise not to oppose the hearing of the bill on a suspension day. This is now the only chance to get the bill through this session, as it would never be reached on the regular calendar. It is believed that it can be passed in a few minutes if Speaker Cannon will recognize Mr. Hull to call it up.

We therefore recommend that the Council call on Speaker Cannon and Chairman Hull and ask them to arrange for the passage of this measure that we believe so important to the welfare of the Army.

It might be added that we have had during the year an additional argument in favor of the passage of the bill. When it seemed probable that it would be necessary to send to Cuba an Army of occupation, Surgeon-General O'Reilly, anticipating the need of a considerable increase in the number of contract surgeons, wrote to a number of well-known physicians in different parts of the country asking for names of capable physicians who might accept positions as contract surgeons. It was my experience, as well as that of our chairman, Dr. Reed, and of many others, that the physicians, to whom we made the proposition of General O'Reilly, when they learned the status of the contract surgeons, refused to consider it. This demonstration of the low estimate placed on the position of contract surgeons by the better members of the profession proves that in case of need, which may at any moment arise, the Medical Department of the Army will be at a disadvantage even greater than at the time of the Spanish-American War.

C. S. BACON, Chairman Special Committee on Army Bill.

THE CHAIRMAN: You have heard the report of Dr. Bacon, chairman of this committee. This is simply a report of progress, giving definite information as to the status of the bill, and the question now arises as to what more can this Council of the American Medical Association do to advance the interests of this measure.

DR. A. S. VON MANSFELDE, of Nebraska: I move, Mr. Chairman, that the report be entered on the minutes and be printed, and that the thanks of this Council be given to Congressman Prince for his valuable services.

The motion was duly seconded, formally put and carried.

THE CHAIRMAN: What more can the Council do to advance the interests of this measure? On this question I would like to hear from Dr. Burton, who has been assigned a member of this Council and who is the representative-at-large to Congress from Delaware.

DR. BURTON, of Delaware: Mr. Chairman, I hope you will allow me to make a suggestion in the form of a motion. I think the report's suggestion that the Council call on Speaker Cannon and make a formal request that Mr. Hull be recognized for the purpose of calling up that bill a very good suggestion, and I have no doubt that Dr. Barchfeld, as I know that I myself, would be very glad to go with the Council and introduce you and make a request from both of us, in connection with the request of the Council.

THE CHAIRMAN: Would it be well to include in the motion that the committee call on the Committee on Rules?

DR. H. R. BURTON, of Delaware: Yes; there would be no objection to that.

Whereon, the motion, having been duly seconded, was formally put and carried.

The Hammond and Canteen Bills.

THE CHAIRMAN: We have here Dr. H. L. E. Johnson, who has been looking after the Hammond and Canteen bills, and he is here to report about the status of these matters.

DR. A. S. VON MANSFELDE, of Nebraska: I move you, Mr. Chairman, the adoption of that report.

THE CHAIRMAN: It has been moved and seconded that the report of the committee be adopted. The adoption of this report like the preceding one, involves a reindorsement of the measure and its continuance in the hands of the present committee.

The motion, having been duly seconded, was formally put and carried.

(To be continued.)

Book Notices

TEXT-BOOK OF COMPARATIVE GENERAL PATHOLOGY for Practitioners and Students of Veterinary Medicine. By Prof. Dr. Th. Kitt, of Munich. Authorized Translation by Dr. William W. Cadbury, Assistant Demonstrator of Pathology in the University of Pennsylvania. Illustrated with 4 colored plates and 131 illustrations. Cloth. Pp. 471. Price, $5.25 net. Chicago: W. T. Keener & Co., 1906.

This book appears to cover in a satisfactory manner the field indicated by its title. The fundamental facts of pathology are presented in a lucid manner and with special reference to the requirement of veterinary practitioners and students. Everywhere throughout the work the close relationship that exists between veterinary and human medicine is apparent. Indeed, the basic principles are identical; both branches of medicine have come from a common source and have been developed along similar lines. Were it necessary, the present work might well serve as a guide for students of human medicine introductory to the study of special pathology. The translation is smooth and the editorial notes, which are enclosed in special brackets, are in the main apposite and helpful. The publisher's part has been well done, and without doubt the volume will be received with approbation by instructors of veterinary students and it should have a large field of usefulness.

Like all text-books, this book also falls a little behind the actual present state of knowledge especially in subjects now actively investigated. Thus the part played by opsonins in phagocytosis receives no mention either by the author or the editor. In view of the rapidity, however, with which knowledge expands as new fields of investigation are opened or new methods of study are introduced inadequacies of this sort are largely unavoidable. In future editions it no doubt will accord with the wishes of many to materially enlarge the sections on parasitic organisms. The following paragraph from the introduction states so well the view generally taken by intelligent, unprejudiced persons *re* animal experimentation that it is quoted here in full: "To sympathetic persons it may indeed seem a serious thing that we be forced for our own advantage to make use of the sufferings of lower animals in order to avert—dangers from ourselves and to purchase by animal sacrifice the means of combating contagion. But the instinct of self-preservation impels man, just as the necessity for food with many animals demands the death of other creatures. The slaughter of animals for sport is far worse, and productive of more pain to them; and many of the methods of killing in the kitchen of the epicure are much less excusable than any of the practices in the whole range of deplored animal inoculation, so unavoidable for the establishment of medical science. When it is remembered that without the results obtainable by such work —experimental pathology—millions of people must forever be threatened by early death from pestilence, as of old, when countless numbers were sufferers in these epidemics and were hurried off before their time and when destructive cattle plagues forced heavy burdens on the land, whole hecatombs of animals for which the experimentalist must account must appear but a trifling matter. Prohibition of animal experimentation, as is sought by unrestrained zoömania, would be equivalent to prohibiting the cure of the sick; since Nature affords for many affections no means for restoration other than the blood of inoculated animals. Human education and the high ethical tone of medical science will certainly be sufficient security that experimental pathology in pursuit of its purposes will not lend itself to useless animal torment."

NEW SERUM THERAPY. By D. Montgomerie Paton, L.R.C.S. and L.R.C.P. Cloth. Pp. 311. Price, $2.25 net. New York: William Wood & Company.

The "New Serum Therapy" described in this volume of 311 pages consists of the stomachic administration of diphtheria antitoxin and certain normal serums, for pathologic conditions ranging from ordinary wounds to locomotor ataxia. It is somewhat shocking to find that there remain some diseases well known to physicians and to the laity which Paton has failed to include in the long list of ailments which lend themselves to specific treatment with the "plasmata" of the sheep, horse or ox, or with diphtheria antitoxin. It may be that the opportunities to try antitoxin on syphilis, gonorrhea, falling of the womb, gumboil, and uncinariasis have not presented themselves to Paton, and that, with true scientific conservatism, he refuses to commit himself until he has tried one or two gallons of low potency antitoxin in each of these diseases.

Paton's theory, briefly, is as follows: The serums mentioned, when given by the mouth, have the power of increasing tissue resistance so that the proteolytic ferments of the bacteria find no point of attack. This power seems to be much more pronounced in diphtheria antitoxin than in normal serums, but has no apparent relation to the antitoxin itself.

The use of the serums of the horse and sheep for tuberculosis, and of the ox for influenza is based on the supposed higher resistance of these animals to the diseases mentioned. In addition to these effects the "plasmata" are supposed to have a very high food value.

Possibly with the exception of some value which may be attached to serums as food substances, on which Paton lays great stress, his deductions are out of harmony with the facts recently gained concerning the specific relation of the reaction on the part of the host to the invading microbe. However serious the author's work has been, the clinical evidence which he presents in support of his principles are far from inviting confidence. The work reflects little credit on the author or on the discrimination of the publisher.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University. Sixth Edition. Cloth. Pp: 820. Price, $4.00 net. New York: William Wood & Company, 1906.

This edition has been enlarged to include the increased application of chemistry to medicine and the advances which have been made by chemistry itself. The section on chemical physics and general chemistry has been rewritten to give proper consideration to the relation of physics to chemistry as shown by the newer investigations. While inorganic chemistry has been left nearly as before, the sections dealing with organic and physiologic chemistry have been extended and brought up to date. An excellent feature is the statement, in italics, of important facts, principles and definitions. The author properly urges that the principles of the science be thoroughly imparted without the attempt to burden the mind with too large an array of facts. In regard to quantitative methods of analysis of urine the distinct advice is given that the practicing physician "abstain entirely from any attempt to use them, unless, indeed, he may spare the time from his practice to become a worker in a chemical laboratory." Another statement needs special emphasis: "And in this connection it should also be said that the value of such investigations frequently depends on comparisons of intake with output, and that in such cases the inquiry should not be entered on unless the patient is willing to undergo the personal discomfort of a regulated and measured diet." Such advice may lessen the use of the ureometer, but is calculated to further the accuracy of scientific medicine. While it may be true, as the author says, that nothing is discussed in the book that can not and should not be taught to medical students, it remains a question what portion of it the physician can be expected to remember, although the book will furnish a valuable means of refreshing his memory.

A TEXT-BOOK OF PATHOLOGY. By A Stengel, M.D., Professor of Clinical Medicine, University of Pennsylvania, with 399 Illustrations in Text. Fifth edition, thoroughly revised. Cloth. Pp. 979. Price, $6.00 net. Philadelphia: W. B. Saunders Company, 1906.

The revision appears to be thorough and conscientious and the material is, in the main, well digested. A serviceable and reliable text-book is the result. Dr. Stengel's book is a kind of *multum in parvo*. In addition to the sections on general pathology and pathologic anatomy there is considerable space given to the morphologic and cultural details of pathogenic microorganisms and there is an appendix on pathologic and bacteriologic technic. If another revision of the book is ever necessary, the question should be considered carefully whether students would not be rendered a greater service if attention

were concentrated on the more essential parts of the main subject—Pathology—and purely bacteriologic and technical matters relegated to the special works where they belong. At present there are no references to original articles and other sources of information and discussion. This the progressive student will regret, because such references, when judiciously selected, are valuable aids to real study. They are especially necessary in connection with a book like this, in which so many important subjects are treated in so concise a form. There is apparently no mention in the book of blastomycosis, either local or general; and the discussion of the theories of immunity, as well as the statement of the facts, seem to us susceptible of considerable simplification and adjustment.

CLINICAL DIAGNOSIS. A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By C. P. Emerson, A.B., M.D., Resident Physician, the Johns Hopkins Hospital, Associate in Medicine, the Johns Hopkins University. Cloth. Pp. 641. Philadelphia: J. B. Lippincott Company.

In this work are discussed very ably the clinical pathology and diagnosis of the sputum, urine, stomach and intestinal contents, feces, blood, and the various body fluids, both normal and abnormal as carried on in the clinical laboratory of the Johns Hopkins Hospital. Nothing of value to the diagnostician appears to have been omitted, so that the book is a complete exposition of well-tried and accepted methods of laboratory diagnosis, although many of them can not be employed by the general practitioner because of the time and equipment needed. The book emphasizes, however, the need of a closer association and coöperation between the practitioner and the laboratory worker. The fact that this work is based on the experience derived from access to the records of a large hospital for seventeen years, considerably enhances its practical value. It is well written, well illustrated and printed on stock that is free from the gloss so hurtful to the eyes.

STÖHR'S HISTOLOGY, Arranged on an Embryologic Basis. By P. T. Lewis, Assistant Professor of Embryology at the Harvard Medical School. From the Twelfth German edition, by P. Stöhr. Sixth American Edition, with 450 illustrations. Cloth. Pp. 434. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co., 1906.

This book has been thoroughly revised and rearranged, the new arrangement being based on an embryologic plan. The directions for preparing sections have been reduced considerably, a very desirable change because the student must learn the technic from his teacher and by experience in the laboratory and not from a text-book. It is not essential that the student or practitioner should be familiar with the details of many staining processes, but the structure of the adult organs and the developmental possibilities of their constituent tissues must be known. The arrangement is excellent and will appeal to both teacher and student. It clarifies the subject of histology and also makes its study more interesting, a fact of no small importance in teaching. The nomenclature adopted is that published by the Committee of the German Association of Anatomists. Many new illustrations have been embodied in this edition.

POKER JIM, GENTLEMAN, and Other Tales and Sketches. By G. Frank Lydston. Cloth. Pp. 396. Price, $1.00. Chicago: Monarch Book Company.

In his usual inimitable style, Dr. Lydston relates twelve short stories, one of which gives the title to the book. Many of these stories deal with the physician and his work, but are of such a character as to appeal particularly to the layman. They are well written and impressionistic, depicting phases of life with which the author shows he is familiar and which to the reader are always full of interest. "A Great City's Shame" vividly describes the scenes of the Chicago Iroquois Theater fire. Among the stories of more than ordinary interest are: "Johnny," "A Legend of the Yosemite," and, of course, the title story. Each holds the reader's interest till its conclusion, and then it leaves him much food for thought and retrospection. On the whole the book is one which can be read more than once, even though the endings of the stories is not such as the superficial reader expects to see. But then, these are incidents taken from life and not the children of a fertile imagination.

THE MAKING OF AN AUTOMOBILIST. By H. A. Grant, M.E. Flexible leather. Pp. 141. 39 Illustrations. Price, $.50. Tarrytown, N. Y.: Maxwell-Briscoe Motor Co., 1906

For the one who thinks he is able to run his own car or who wants to be able to do so, now or when he gets one, this book will be of value. It tells all about the various motors, explains the carbureters and their mode of action, methods of cooling, transmissions and clutches, ignition—in fact, all about the car and how to run it. It tells how to avoid trouble on the road, and how to get out of trouble should it occur. It is a book full of practical information for the automobolist, and the matter is presented in such a way as to be easily understood, even by a novice.

ENTERIC FEVER IN INDIA, and in Other Tropical and Sub-Tropical Regions. A Study in Epidemiology and Military Hygiene. By E. Roberts, M.B., D.P.H., Formerly Deputy Sanitary Commissioner, Northwest Provinces; lately Statistical Officer to the Government of India in the Medical and Sanitary Departments, etc. Cloth. Pp. 571. Price, 21s. net. London: Bailliere, Tindall and Cox, 1906.

This is a study in epidemiology and military hygiene based on an experience in India and a careful analysis of statistics, largely those of the army.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEW YORK State Boards of Medical Examiners, Albany, January 29-February 1. Chief of Examining Division, Charles F. Wheelock, Albany.

NEVADA State Board of Medical Examiners, Carson City, February 4. Secretary, Dr. S. L. Lee, Carson City.

KANSAS State Board of Medical Registration and Examination, Topeka, February 12. Secretary, Dr. F. P. Hatfield, Grenola.

NEBRASKA State Board of Health, State House, Lincoln, February 13-14. Secretary, Dr. George H. Brash, Beatrice.

Length of College Year at Kentucky School of Medicine.—Dr. W. H. Wathen, dean of the Kentucky School of Medicine, writes us that the statement in regard to that college made on page 555 of THE JOURNAL, Aug. 25, 1906, saying that the curriculum embraced "four years of 28 weeks each," should read "four years of 30 weeks each."

New Jersey June Examination.—In the report of the examination given by the New Jersey State Examining Board, published in THE JOURNAL, Sept. 15, 1906, page 890, one candidate who was listed as a graduate of the Woman's Medical College of Ontario in 1896, grade 89.8, should have been accredited to the Woman's Medical College of Pennsylvania.

Kentucky October Report.—Dr. J. N. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, October 23-25, 1906. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 70, but not less than 60 in any one branch. The total number of candidates examined was 13, all of whom passed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Kentucky	(1906)	79, 88
College of P. and S., Chicago	(1906)	74
University of Louisville	(1906)	80
College of P. and S., New York	(1906)	84.5
Medical Coll. of Ohio	(1906)	84
University of Pennsylvania	(1906)	85.5
Miami Med. Coll.	(1906)	85, 86, 90
University of Tennessee	(1905)	79
University of Virginia	(1906)	77
Kentucky School of Med.	(1906)	77

Representatives from the following colleges were licensed to practice medicine Nov. 15, 1906, under the exemption clause without examination:

College.	No. and Year Grad.
University of Kentucky	(5, 1906)
Louisville Med. Coll.	(3, 1906)
Hospital Coll. of Med., Louisville	(1, 1905)

Idaho October Report.—Dr. J. L. Conant, Jr., secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Lewiston, Oct. 2-3, 1906. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 35, of whom 29 passed and 6 failed. The following colleges were represented:

PASSED.

COLLEGES.	Year of Grad.	Gynecology.	Obstetrics.	Pathology.	Surgery.	Anat. and Hist.	Mat. Med. and Therapeutics.	Hygiene.	Theory, Pract.	Diagnosis.	Physiology.	Chem. and Tox.	Gen. Average.
Coll. of P. and S., San Francisco.	1906	74	86	69	64	83	78	85	71	77	76	83	77
Coll. of P. and S., San Francisco.	1905	80	89	82	77	87	84	96	77	87	80	68	82
Colo. School of Med..	1906	77	89	78	76	95	87	95	77	88	94	93	86
Colo. School of Med..	1906	76	86	75	79	89	77	93	72	81	88	75	81
Georgetown Univ. ...	1904	76	84	62	76	82	86	90	77	78	78	75	79
Rush Med. Coll.	1900	78	91	75	79	87	82	90	78	83	91	78	83
Rush Med. Coll.	1905	80	88	79	79	89	83	90	79	90	85	75	83
Rush Med. Coll.	1899	78	87	71	76	82	76	90	75	80	76	85	80
Rush Med. Coll.	1902	82	91	79	82	93	85	88	78	94	87	89	86
Rush Med. Coll.	1904	80	93	85	86	89	87	98	76	89	85	85	87
Coll. of P. and S., Chi.	1906	76	88	82	83	89	82	95	78	88	95	95	87
Northwestern Univ. ..	1906	74	90	74	82	94	82	90	77	82	72	67	81
University of Iowa...	1895	80	86	77	76	85	83	95	81	75	76	68	80
Tulane University ...	1906	79	87	81	73	95	84	87	79	85	85	91	84
Detroit Coll. of Med..	1904	80	94	90	91	90	92	98	79	90	89	82	89
Detroit Coll. of Med..	1886	81	89	74	76	74	85	98	72	62	73	60	77
Univ. of Minnesota...	1905	78	66	74	67	78	75	85	76	79	76	85	76
Univ. of Minnesota...	1906	76	82	85	73	86	87	95	78	85	82	75	82
Chicago Hom. Med. C.	1880	80	94	79	80	81	94	100	80	79	78	66	83
Marion-Sims-Beaumont Med. Coll....	1898	81	73	67	69	88	80	86	71	78	79	89	78
Kansas City Med. C..	1897	76	88	75	72	95	86	84	77	84	96	76	83
American Med. Coll. St. Louis.	1906	77	89	70	72	86	100	90	75	78	66	20	75
Coll. of P. and S., St. Louis	1906	77	86	69	76	82	80	90	74	78	86	70	79
Univ. M. C., Kan. City.	1900	74	87	61	74	78	76	80	73	69	88	70	75
Creighton Med. Coll..	1906	82	90	84	84	84	86	100	76	90	80	84	85
University of Oregon.	1906	81	95	91	85	88	83	95	77	87	94	91	88
Willamette Univ.	1906	81	88	77	77	89	77	89	76	83	92	92	84
West. Pennsylvania Med. Coll.	1888	81	85	62	75	81	81	95	78	78	67	67	77
Vanderbilt Univ.	1906	77	89	71	80	92	85	95	78	79	75	80	82
FAILED.													
Keokuk Med. Coll.....	1905	74	81	54	48	68	77	89	75	65	61	53	68
Kentucky Sch. of Med.	1886	73	75	16	62	26	68	85	79	31	21	27	51
Mississippi Med. Coll.	1895	54	..	12	16	34	34	50	..	38	..	..	22
Missouri Med. Coll...	1899	73	65	21	64	77	74	77	66	73	61	81	67
Univ. of Louisville...	1883	59	93	41	73	80	77	95	76	74	47	62	71
Kansas City Homeo.	1895	74	85	36	62	78	87	90	75	72	75	61	72

Louisiana October Report.—Dr. F. A. Larue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 19-20, 1906. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 26, of whom 19 passed and 7 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1883)	82.8
Louisville Med. Coll.	(1906)	75.2
Hospital Coll. of Med., Louisville	(1906)	75, 85.2
University of Louisville	(1906)	83.8, 84.8
Kentucky School of Med.	(1906)	89.6
Flint Med. Coll.	(1905) 79.2; (1906)	80.6
Tulane University	(1906) 86.2, 88.6, 90.4,	91.4
Maryland Med. Coll.	(1906)	88.2
College of P. and S., St. Louis	(1901)	81.0
Memphis Hosp. Med. Col.	(1898)	77.0
Vanderbilt University	(1903) 90; (1906)	94.2
University of the South, Sewanee	(1905)	89.6
FAILED.		
Hospital Coll. of Med., Louisville	*70.4 (1906)	69.2
University of Baltimore	(1904)	55
Flint Med. Coll.	(1904) 67.4; (1905)	70
Meharry Med. Coll.		*71.8
Dallas Med. Coll.	(1903)	70

* Year of graduation not given.

Mississippi October Report.—Dr. J. F. Hunter, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 9-10, 1906. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 69, of whom 38 passed, including 20 undergraduates, and 31 failed, including 11 undergraduates. The following colleges were represented:

PASSED. College.	Number and year of grad.
Medical Coll. of Alabama	(1, 1898)
University of Kentucky	(1, 1905) (1, 1906)
Louisville Med. Coll.	(1, 1905) (3, 1906)
College of P. and S., Baltimore	(1, 1897)
Jefferson Med. Coll.	(1, 1905)
University of Nashville	(1, 1906)
Meharry Med. Coll.	(1, 1903) (1, 1906)
Memphis Hosp. Med. Coll.	(1, 1901) (3, 1906)
Medical Coll. of Virginia	(1, 1904)
McGill University, Quebec	(1, 1906)
FAILED.	
Harvey Med. Coll., Chicago	(1, 1905)
University of Louisville	(1, 1896)
Hospital Coll. of Med., Louisville	(1, 1906)
Kentucky School of Med.	(1, 1906)
Louisville Med. Coll.	(3, 1906)
Tulane University	(1, 1904)
Flint Med. Coll.	(1, 1906)
University of Nashville	(1, 1906)
Memphis Hosp. Med. Coll.	(1, 1903) (3, 1906)
University of Tennessee	(1, 1901)
Meharry Med. Coll.	(1, 1903) (3, 1906)
Chattanooga Med. Coll.	(1, 1905)

Connecticut November Report.—Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, Nov. 13-14, 1906. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 35, of whom 25 passed, 9 failed and one withdrew. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Cooper Med. Coll.	(1891)	92.9
Yale University..	(1904) 82.5; (1905) 80.3; (1906) 82.8, 83,	83.5
George Washington University	(1906)	79.3
Georgetown University	(1905)	76.8
College of P. & S., Chicago	(1905)	75.3
Baltimore Med. Coll.	(1905) 78.9; (1906)	79.4
Johns Hopkins University	(1905)	77.6
University of Maryland	(1906)	75.6
College of P. & S., Baltimore	(1906) 75.8,	77.5
Medical School of Maine	(1897)	75.
Harvard Med. School	(1894)	75.6
University of Minnesota	(1903)	75.1
Cornell University	(1905)	91.3
Albany Med. Coll.	(1904)	85.3
Univ. and Bellevue Hosp. Med. Coll....	(1903) 82; (1905)	87.9
College of P. & S., New York	(1906)	82.8
Jefferson Med. Coll.	(1895)	78.4
University of the South	(1905)	75.4
FAILED.		
Baltimore Med. Coll.	(1906) 65, 67,	70.1
Tufts Coll. Med. School	(1905)	71.6
College of P. & S., Boston	(1906)	43.9
College of P. & S., New York	(1904) 73.9; (1905)	68.6
Long Island College Hospital	(1888)	68.2
New York Univ. Med. Coll.	(1880)	64.8

Massachusetts November Report.—Dr. E. B. Harvey, secretary of the Board of Registration in Medicine, reports the written examination held at Boston, Nov. 13-14, 1906. The number of subjects examined in was 13; percentage required to pass, 70. The total number of candidates examined was 46, of whom 35 passed and 10 failed, while one did not complete the examination. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Bennett Coll. of Ecl. Med. and Surg., Chicago	(1895)	70
Kentucky School of Med.	(1904)	71
Baltimore Med. Coll.	(1906)	74.8
Baltimore University	(1905)	70
Harvard Med. School....	(1904) 82.5; (1905) 80; (1906)	76.3
Tufts Coll. Med. School..	(1905) 70, 70; (1906) 71.1, 76, 76, 76.3, 77.5.	
Boston University..	(1905) 77.3, 81.5, 85.5; (1906) 72.3, 76.6,	76.6
College of P. and S., Boston	(1906) 70, 74,	78
Dartmouth Med. Coll.	(1900) 75.8; (1906)	75
Eclectic Med. Inst., Cincinnati	(1904)	72.8
Woman's Med. Coll., of Pennsylvania	(1905) 78.5, 77 6,	78.8
University of Pennsylvania	(1906) 70.3,	77.3
University of Vermont	(1906)	71
University of Virginia	(1905)	71.6
McGill University, Montreal	(1906)	75.8
Toronto University, Ontario	(1904)	77.1
FAILED.		
National Med. University	(1904)	49.1
Baltimore Med. Coll.	(1906)	59.8
Baltimore University	(1904) 65; (1906) 53.3, 55.8,	65.1
Maryland Med. Coll.	(1906)	61.5
University of the South	(1903)	62.8
Laval University, Quebec	(1904) 48.5; (1905)	62.3

Nevada November Report.—Dr. S. L. Lee, secretary of the State Board of Medical Examiners, reports the oral and written examination held at Carson City, Nov. 5, 1906. The number of subjects examined in was 14; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was two, both of whom passed. Sixty-eight candidates were registered on presentation of satisfactory credentials. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Western University, London, Canada	(1906)	78
University of Edinburg, Scotland	(1898)	79
REGISTERED WITHOUT EXAMINATION.		
	Number and year.	
College of P. and S., San Francisco	(1, 1899) (5, 1906)	
California Med. Coll., Ecl., San Francisco	(1, 1903) (1, 1906)	
College of P. and S., Los Angeles	(1, 1906)	
Cooper Med. Coll.	(2, 1897) (1, 1901) (3, 1905) (3, 1906)	

University of California	(1, 1899)	(1, 1902)	(1, 1906)
University of Southern California			(3, 1906)
Denver and Gross Coll. of Med.	(1, 1894)	(1, 1898)	(1, 1905)
University of Colorado			(1, 1896)
University of Denver			(1, 1900)*
Georgetown University			(1, 1897)
College of P. and S. Chicago			(3, 1905)
Rush Med. Coll.		(1, 1889)	(1, 1901)
Jenner Med. Coll.			(1, 1903)
National Medical University			(1, 1899)
Illinois Med. Coll.			(1, 1902)
Central College of P. and S., Indianapolis			(1, 1896)
Keokuk Med. Coll.			(1, 1892)
Kentucky School of Medicine			(1, 1897)
Baltimore Med. Coll.			(1, 1896)
College of P. and S., Boston			(1, 1906)
Saginaw Valley Med. Coll.			(1, 1902)
Hahnemann Med. Coll., Kansas City			(1, 1901)
Barnes Med. Coll.		(1, 1896)	(1, 1906)
University Med. Coll., Kansas City			(1, 1905)
American Med. Coll., St. Louis			(1, 1890)
Missouri Med. Coll., St. Louis			(1, 1894)
St. Louis Univ. (Marion-Sims-Beaumont Med. Coll.)			(1, 1906)
Washington University, St. Louis			(1, 1898)
University of Nebraska			(1, 1905)
Creighton Med. Coll.			(1, 1905)
Bellevue Hosp. Med. Coll.			(1, 1889)
College of P. and S., New York City		(1, 1893)	(1, 1896)
Miami Med. Coll.			(1, 1867)
Starling Med. Coll.			(1, 1888)
Eclectic Med. Inst., Cincinnati			(1, 1884)
Willamette University			(1, 1906)
Western Reserve University			(1, 1882)
Jefferson Med. Coll.			(1, 1877)
Vanderbilt University			(1, 1888)
Memphis Hosp. Med. Coll.		(1, 1902)	(1, 1904)
University of the South			(1, 1901)
University of Fort Worth			(1, 1906)

* In 1902 this school merged with Gross Medical College to form the Denver and Gross College of Medicine.

West Virginia November Report.—Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written and oral examination held at Huntington, Nov. 13-15, 1906. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 33, of whom 20 passed, including 1 undergraduate, and 13 failed, including 2 undergraduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
George Washington University	(1903)	88
Louisville Med. Coll.	(1906)	84
Rush Med. Coll.	(1897)	87
Hospital Coll. of Med., Louisville	(1904)	80
Baltimore Med. Coll.	(1899) 85; (1905)	82
Maryland Med. Coll.	(1906)	80
College of P. and S., Baltimore	(1906)	91
Woman's Med. Coll., Baltimore	(1901)	86
University of Maryland	(1906)	91
Cornell University	(1904)	93
Cincinnati Coll. of Med. and Surg.	(1897)	81
Jefferson Med. Coll.	(1906)	88
University of the South	(1904) 80, 89; (1906)	84
Medical Coll. of Virginia	(1906)	85, 88
University Coll. of Med., Richmond, Va.	(1899)	80

FAILED.

Kentucky School of Med.	(2, 1905)*	(1, 1906)*
University of Kentucky	(2, 1905)*	
Hospital Coll. of Med. Louisville		(1, 1906)*
University of Louisville		(1, 1906)*
Louisville Med. Coll.		(2, 1906)*
Maryland Med. Coll.		(1, 1906)*
Medical Coll. of Virginia		(1, 1906)*

* Percentage not given.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.]

Conjunctivitis.

The most common causes of conjunctivitis in children, according to the *Practitioner*, are the Koch-Weeks bacillus, the Morax-Axenfeld bacillus, which produces a non-purulent form of conjunctivitis, the gonococcus of Neisser, and the pneumococcus of Fraenkel. In rare cases the streptococcus, the staphylococcus and the bacillus pneumoniæ may be producing factors.

The treatment should first consist of warning the child's parents of the necessity of isolating the child on account of the contagious nature of the disease and at the same time of insisting that all towels, cloths and sponges used by the patient should be kept exclusively for the patient and afterward boiled or burned.

Secondly, local treatment must be applied to the eye, from which the discharge should be carefully washed away four or five times a day. This procedure can be carried out, according to the *Practitioner*, by soaking a pledget of absorbent cotton-wool in a proper antiseptic solution and by gently squeezing so as to produce a continuous stream and allowing it to drip into the inner canthus. The patient should be instructed to lie down and the eye should be gently opened by the person bathing it.

The following lotions are recommended for this purpose:

℞ Hydrarg. perchloridi ..... gr. 1/16 | 004
Aquæ dest. ..... f℥i 30 |

M. Ft. collyrium. Sig.: Apply locally. Or:

℞ Acidi borici ..... gr. x | 65
Zinci sulphatis ..... gr. ii | 12
Aquæ dest. q. s. ad ..... f℥i 30 |

M. Ft. collyrium. Sig.: Apply locally twice or three times a day. Or:

℞ Sodii biboratis ..... gr. vi | 40
Acidi salicylici ..... gr. ii | 12
Aquæ dest. q. s. ad ..... f℥i 30 |

M. Ft. collyrium. Sig.: Apply locally.

In some cases a weak solution of silver nitrate is very useful. It is recommended in the following strength solution:

℞ Argenti nitratis ..... gr. ii | 12
Aquæ dest. ..... f℥i 30 |

M. Ft. collyrium. Sig.: One or two drops to be dropped into the inner canthus once or twice a day.

It is also recommended that a little spermaceti ointment be painted along the margins of the lids with a clean camel's hair brush after all the discharge has been bathed away in order to prevent the lids from sticking together during sleep. The eyes should not be bandaged, as the discharge should be allowed to escape freely. Corneal complications seldom arise, although one or more phlyctenulæ may occur.

Epilepsy.

The only preparation which is of service during an attack of epilepsy, according to Colbeck and Chapin in their "Science and Art of Prescribing," is amyl nitrite, which should be inhaled by the patient. Chloroform is sometimes employed, but not without danger.

Between the attacks a large number of preparations are of value. The following combinations are recommended:

℞ Potassii bromidi ..... gr. x-xx | 65-1.20
Liq. arsenicalis ..... m. iii | 20
Tinct. card. comp. |
Syrupi aurantii, āā ..... f℥ss 2 |
Aquæ q. s. ad ..... f℥i 30 |

Ft. mistura. Sig.: Two tablespoonsful three times a day after food.

In some cases a combination of bromids similar to the following has been found clinically to be very efficacious and more active than when any of the salts are given alone:

℞ Ammonii bromidi |
Potassii bromidi |
Sodii bromidi, āā ..... gr. v | 30
Syrupi aurantii ..... f℥i 4 |
Aquæ camphoræ q. s. ad ..... f℥i 30 |

Ft. mistura. Sig.: Two tablespoonsful to be taken three times a day after meals. Or:

℞ Potassii bromidi ..... gr. x | 65
Tinct. belladonnæ ..... m. v-x | 30-.65
Syrupi aurantii ..... f℥i 4 |
Aquæ camphoræ q. s. ad ..... f℥i 30 |

Ft. mistura. Sig.: Two tablespoonsful to be taken three times a day after meals. Or:

℞ Ammonii bromidi ..... gr. xv | 1
Liq. arsenicalis ..... m. iii | 20
Elix. simplicis ..... f℥ss 2 |
Aquæ menth. pip. q. s. ad ..... f℥i 30 |

Ft. mistura. Sig.: Two tablespoonsful after meals three times a day. Or:

℞. Potassii bromidi.....gr. x | 65
Syrupi aurantii .....f℥ss 2
Infusi adonis vernalis q. s. ad.....f℥ss 15

Ft. mistura. Sig.: One tablespoonful three times a day after food. Or:

℞. Ammonii bromidi.....gr. xv 1
Tinct. digitalis.....m. viii | 50
Syrupi aurantii .....f℥i 4
Aquæ camphoræ q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablspoonsful three times a day after food. Or:

℞. Ferri bromidi.....gr. iv | 25
Potassii bromidi.....gr. x | 65
Syrupi simplicis.....f℥ss 2
Aquæ q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful three times a day after food. Or:

℞. Sodii boratis.....gr. xv 1
Syrupi aurantii .....f℥i 4
Aquæ q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful after meals, in water. Or:

℞. Zinci phosphidi.....gr. 1/20 | 003
Sacchari lactis.....gr. v | 3

M. Ft. capsula No. i. Sig.: One such capsule to be taken three times a day after meals. Or:

℞. Extracti cannabis indicæ.....gr. 1/4 | 015
Lycopodii q. s.

M. Ft. pillula No. i. Sig.: One such pill to be taken three times a day. Or:

℞. Argenti nitratis.....gr. 1/6 | 01
Unguenti simplicis q. s.

M. Ft. pillula No. i. Sig.: One such pill three times a day.

In syphilitic cases the following combination is recommended:

℞. Potassii iodidi
Potassii bromidi
Ammon. bromidi, āā.....gr. v | 30
Potassii bicarb.....gr. xv 1
Syrupi aurantii.....f℥i 4
Aquæ menth. pip. q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful three times a day after food.

Migraine.

Some authorities associate migraine with epilepsy in its nature. Colbeck and Chapin recommend the following combinations in the treatment of this disease:

℞. Potassii bromidi.....gr. xx 1 | 20
Syrupi aurantii .....f℥i 4
Aquæ camphoræ .....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful to be taken at once and repeated in an hour if necessary. Or:

℞. Tinct. cannabis indicæ
Tinct. gelsemii, āā.....m. x | 65
Mucil. acaciæ
Syrupi simplicis, āā.....f℥i 4
Aquæ q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful at a dose and repeat in two hours if necessary. Or:

℞. Ammonii chloridi.....gr. xx 1 | 20
Tinct. gelsemii.....m. xv 1
Syrupi aurantii.....f℥i 4
Aquæ cinnamomi q. s. ad.....f℥i 30

Ft. mistura. Sig.: One tablespoonful at a dose and repeated in three hours if necessary. Or:

℞. Liquoris arsenicalis.....m. iii | 20
Ammon. bromidi.....gr. v | 30
Syrupi aurantii .....f℥ss 2
Aquæ camphoræ q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful at a dose after each meal. Or:

℞. Sodii arsenatis.....gr. 1/12 | 005
Ext. cannabis indicæ.....gr. 1/6 | 01
Ext. belladonnæ.....gr. 1/4 | 015
Zinci valerianatis.....gr. ii | 12

M. Ft. pillula No. i. Sig.: One such pill to be taken after meals. Or:

℞. Potassii iodidi.....gr. iv | 25
Ammon. chloridi.....gr. xv 1
Syrupi aurantii .....f℥i 4
Aquæ cinnamomi q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful three times a day after meals. Or:

℞. Potassii iodidi.....gr. v | 30
Sodii salicylatis.....gr. xv 1
Syrupi aurantii .....f℥i 4
Aquæ menthæ pip q. s. ad.....f℥i 30

Ft. mistura. Sig.: Two tablespoonsful to be taken three times a day after food.

Ground Itch.

"Ground itch" is a vesicular dermatitis, often ulcerating and probably due to the irritation produced by the penetration of larvæ of *Uncinaria americana*, together with local infection from organisms in the feces from which the larvæ come.

For such conditions, R. N. Green recommends that the parts be immersed in a 3 per cent. phenol solution, dried, and the following ointment applied:

℞. Acidi salicylatis .....ʒii 8
Pulv. amyli (corn) .....ʒss 15
Olei cajuputi .....ʒii 8
Ung. zinci oxidi.....ʒi 30
Ung. petrolati q. s. ad.....ʒiv 120

M. Ft. unguentum. Sig.: Apply twice daily and avoid rubbing.

Medicolegal

Requisite to Justification of Prescribing Cocain.

The Court of Criminal Appeals of Texas in another and later case of Blair vs. State than that reported in the Medicolegal Department of THE JOURNAL of Nov. 24, 1906, on page 1763, had evidence to the effect that the physician prescribing the drug, in this instance cocain, to an habitual user did so in good faith to relieve her from pain. But the court says that the state requires, before a physician can be relieved from the penalty of the act of 1905, regulating the giving of a prescription for cocain, that he must prescribe the drug for treatment of the habit; that is, for the purpose of curing it.

Unskilful Treatment No Reason for Reducing Damages.

The Supreme Judicial Court of Maine says that in the personal injury case of Hooper vs. Bacon it was claimed that for a part of the consequences the defendant was not responsible. The contention was that the plaintiff's injuries did not receive proper surgical treatment, and that, by reason of the want of proper care or skill on the part of the surgeon employed by the plaintiff, his injuries were greatly aggravated, and the consequences much more serious than they would have been otherwise. But, the court says, the law was against the defendant on this point. It was the duty of the plaintiff to use due care in the selection and use of means for his recovery. It was his duty to employ a surgeon of ordinary professional knowledge and skill, and to follow his necessary directions, and, if he did so, he would be without fault in that respect himself, and he would be entitled to recover compensation for all the damages sustained, though the surgeon may not have used the requisite skill, or may have erred in judgment, and by unskilful treatment have prevented the plaintiff from recovery from the injury as soon or as perfectly as he would have recovered under skilful treatment. The unskilful treatment by the surgeon, itself, if any there was, arose as a consequence of the original fault of the defendant.

Technicalities of a Malpractice Case.

The Supreme Court of Minnesota says that the plaintiff in the case of Awde vs. Cole and another brought an action to recover damages for alleged negligence on the part of the defendant physicians: 1. In the diagnosis of appendicitis; in the performance of the actual operation, and in the subsequent care of the wound. 2. In burning the plaintiff's leg after the operation, and in the subsequent treatment of that burn. The jury returned a general verdict for the plaintiff, and special verdicts finding that the defendants were not negligent in the performance of the operation or in the subsequent

treatment of the wound which it caused, and that the nurse, who put a hot stone in the bed in which the plaintiff was to be placed, whereby the burn was caused, was a servant of the plaintiff and not of the defendants. There was added to the answer to the last question "and at the time the plaintiff received the burns on his leg we believe the defendants were responsible for the actions of the nurse." The Supreme Court holds that this addition of the jury to its answer, respecting the responsibility of the defendants for the acts of the nurse, was properly regarded as a gratuitous and immaterial conclusion of law. It holds that the charge of negligence in diagnosis having been abandoned by total failure of proof, it was not an issue covered by the general verdict which a special verdict failed to negative. And it holds that, inasmuch as the charge of negligence in connection with the burn, as set forth in the charge of the court to the jury, was broad enough to cover responsibility by virtue of the relationship as well as by virtue of failure to take care after knowledge of danger, and inasmuch as the special verdict negatived only responsibility by virtue of relationship and not because of direct personal conduct, the trial court was in error in granting the motion for judgment for the defendants notwithstanding the verdict for the plaintiff on the ground only of the inconsistency of the general and special verdicts. But it gives the defendants permission to apply to the trial court for leave to make proper motion or motions for a new trial or judgment notwithstanding the verdict, on proper grounds, in accordance with this decision.

Malpractice Defense to Default Foreign Judgment.

The Supreme Court of Iowa says, in the case of Conly vs. Scanlin and wife, an action in Iowa on a foreign judgment, that the judgment sued on in Iowa was obtained against both defendants on default in South Dakota, the defendants not appearing or pleading in the action in South Dakota, which was on account for medical services rendered the defendants by the plaintiff. In the action in Iowa on said judgment the defendants filed separate counter-claims for malpractice in treating Mrs. Scanlin at the time the debt for medical services was incurred. The trial court (in Iowa) held that there had been an adjudication of these claims for damages in the rendition of the default judgment in South Dakota. It was error to so hold, a contrary doctrine having been established in Iowa, although there is a conflict of authority on the question in other jurisdictions.

Provides for Screening Cisterns and Oiling Water.

Chapter 113 of the Laws of Mississippi of 1906, provides that the board of supervisors may, in its discretion, make necessary appropriations for screening cisterns and other water containers, and fumigating and disinfecting houses where yellow fever existed, or to prevent the introduction of yellow fever by distributing coal oil where stagnant water may be found, such appropriation not to be made unless, in the opinion of the county health officers, such screening and fumigating or oiling is necessary. It shall be lawful for such health officer to enter the premises of any such place for the purpose of fumigating and disinfecting or oiling, and any person who shall refuse to allow such health officer to enter such place for the purpose of fumigating or oiling shall be guilty of a misdemeanor.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

January 5.

1 Plan of Organizing a Hospital System for the City of New York. S. Smith, New York.
2 *Two Cases of Dementia Paralytica. J. W. Fisher, Middletown, Conn.
3 Intestinal Bacteria; How They Acquire Toxicity and How to Determine This Experimentally for Clinical Purposes. E. Palier, New York.
4 *Epidemic of Grippe Followed by Pneumonia. A. Woldert, Tyler, Texas.
5 *Throat Diseases Caused by the Misuse of the Voice. N. J. P. Van Baggen, The Hague, Holland.

2. Dementia Paralytica.—Fisher presents the results of a careful study of two cases. Autopsy showed, in the brain of the first patient an area of hemorrhagic degeneration in the corona radialis of the left hemisphere. This lesion began just anterior to the tip of the anterior horn of the left ventricle, extending posteriorily to the dorsal extremity of the caudate nucleus. The anterior limb of the internal capsule was also involved by this lesion. On examination of the brain of the second patient, there was discovered atrophy of both optic nerves and tracts, and the lateral geniculate bodies of each side were found to be about one-half normal size.

4. Grippe and Pneumonia.—Woldert has had the opportunity of studying cases of croupous pneumonia and grippe in a small rural district. From his observations he has drawn various conclusions, among which are the following: While grippe appears to be an infectious disease, not all of those who come in direct contact (such as sleeping in the same bed) contract the disease. The possible average period of incubation by air transmission is about seven days. An individual suffering with grippe should be warned against the tendency to develop pneumonia. Proper care should be exercised to destroy all sputa and fomites which may aid in the spread of grippe. Infection of the human system by the bacillus of grippe so lessens the natural immunity, or prepares the soil of man, that subsequent infection by the virulent diplococcus of pneumonia and consequent production of croupous pneumonia may more readily occur. The possible average period of incubation of croupous pneumonia by air transmission is about ten days.

5. Throat Diseases Caused by Misuse of Voice.—Van Baggen points out the symptoms common to clergymen's sore throat. He says that patients suffering from this disorder do not use their breathing, articulation, or vocal muscles normally. Harmonious coöperation among these three sets of muscles is lacking. Breathing is usually clavicular in these cases. The breath is the chief element in the production of voice and speech; thus the patient should learn in the first place the correct way to breathe, and the best method of using the breath in phonation. The combined diaphragmatic and thoracic breathing is recognized as the best way of breathing. No speaker who misuses his voice should take singing lessons to improve his speaking. The patient, before undertaking any exercises, must first go through a judicious medical treatment united with rest of the vocal organs.

New York Medical Journal.

January 5.

6 Bone Syphilis, Hereditary and Acquired. (To be continued.) R. W. Taylor, New York.
7 Marie's Views on Aphasia. F. X. Dercum, Philadelphia.
8 Where to Send Consumptives. J. O. Cobb, Los Angeles.
9 Malignant Disease of the Ovary. H. A. Duncan, Philadelphia.
10 Albuminuria of Prostatic and Seminal Origin. W. G. Young, Washington, D. C.
11 *Treatment of Tuberculous Glands of the Neck by the Roentgen Ray. S. L. Feldstein, Philadelphia.
12 *Metabolism of Spleen Nucleoproteid. H. M. Lefkowitsh, New York.
13 Pardons for Diseased Convicts. J. A. Matlack, McNiel Island, Wash.
14 *Formaldehyd in the Disinfection of Rooms. M. J. Rosenau, Washington, D. C.

11. Roentgen Ray in Cervical Tuberculous Adenitis.—The value of Roentgen ray treatment in tuberculous glands of the neck is summarized by Feldstein as follows: 1. They should be treated by the Roentgen ray when no softening or caseation has taken place. 2. Softened or caseous glands should be referred to the surgeon, and ought not to have Roentgen ray treatment. 3. Postoperative Roentgen ray treatment is important if there is any doubt of remaining glands which might be infected. 4. The Roentgen ray should be used for cosmetic reasons. 5. The size of the gland or glands does not influence the successful result of the treatment.

12. Metabolism of Spleen Nucleoproteid.—Lefkowitsch believes himself justified in assuming that it is at least extremely probable that the percentage of nitrogen retained is in inverse ratio to the amount fed, in the case of spleen nucleoproteid.

14. **Formaldehyd Disinfection of Rooms.**—According to Rosenau the most serious limitations to the use of formaldehyd gas as a disinfectant are temperature and moisture. The gas can not be depended on in cold or dry weather. When the temperature is below 60 F., and the relative humidity of the atmosphere is below 65 per cent., the gas frequently fails to kill non-spore bearing organisms.

Boston Medical and Surgical Journal.

December 27.

15 Intolerance of Fats. D. L. Edsall, Philadelphia.
16 *Simple Method of Treating the Appendicular Stump. H. Packard, Boston.
17 Removal of Foreign Body from Esophagus, Seven Weeks After Lodgment, with Aid of Roentgen Ray. D. D. Scannell, Boston.
18 An Unusual Case of Cerebral Abscess. T. C. Beebe, Jr., Boston.

January 5.

19 Mens Sana in Corpore Sano. D. W. Cheever, Boston.
20 Medical Problems in the State's Service. C. A. Drew, Bridgewater, Mass.
21 *General Peritonitis, Prolonged Irrigation of the Abdominal Cavity. L. R. G. Crandon and D. D. Scannell, Boston.
22 Dermoid Cyst of the Anterior Mediastinum. W. A. Griffin, Sharon, Mass.

16. **Simple Method of Treating the Appendicular Stump.**—In Packard's procedure after the appendix has been exposed and brought into the field of operation as far as circumstances will permit, the mesoappendix is ligated and divided in the usual way. An intestinal needle with fine silk, or Pagenstecher thread, is passed through the cecal coats on the meso side of the appendix, including the edges of the peritoneum which have been severed in the cutting away of the mesoappendix. The needle then takes up a dip of peritoneum just outside the mesenteric wound, skips over to the other side, takes up a corresponding dip and is tied. This constitutes the first step in the suturing, the remainder being a continuation of the same in the form of a right and left continuous suture, applied in such a way as gradually to embrace the circumference of the base of the appendix and at the same time bury it. After two or three passes of the needle, right and left, the appendix will be found to have assumed somewhat of an upward turn, i. e., if left to its own inclination it will turn upward spontaneously along the longitudinal band of the cecum. On seizing it with forceps and pulling gently, its base, or nearly the whole of the circumference of its base, emerges from the infolding portion of the cecal peritoneum which the suture has gathered up about it.

The next step is the amputation of the appendix, which is done as follows: The tip of the appendix is seized with a pair of forceps and enough traction is exerted to put the part well on the stretch. With a pair of scissors the appendix is cut short off at the base. If the suture has been correctly adjusted, the stump, or circumference of the opening resulting from the amputation, disappears at once—is buried. Two or three dips more of the needle in the same right and left manner completes the suturing, and the operation is done so far as relates to the appendix. Any form of scissors will suffice for the amputation, but Packard has found specially made ones with broad dishing blades, safer, in that the appendix, immediately on being severed may be dropped into them, and the whole—appendix, scissors and all—taken away from the operating table by the nurse. Packard has used this method of appendicular stump treatment in over 100 cases without a known instance of colon bacillus infection.

21. **Irrigation of Abdominal Cavity.**—For the purpose of thoroughly washing and draining the infected abdominal cavity, with the least injury to, and disturbance of, the abdominal contents, Crandon and Scannell have devised and use an apparatus which consists of a small reservoir (capacity 1 oz.) of nickeled brass, supported on an aluminum plate, in its turn resting on the anterior iliac spines. From the bottom of this reservoir emerge four nickeled tubes, 1 cm. in diameter, easily removable and self-retaining. The tube first to be inserted (the hepatic tube) runs along under the abdominal wall, curves slightly, and ends hanging over the hepatic fossa near the hepatic flexure of the large gut. The second tube (the splenic tube) runs along beneath the abdominal wall to end over the splenic region. The third tube (the pelvic tube) runs from the reservoir down into the pouch of Douglas in the female, or between the bladder and rectum in the male. The fourth tube (the appendix tube) extends along the abdominal wall to end over the cecum. Each tube, at its exit, is protected by two crossed pieces of nickeled wire to prevent the intestine being sucked into the tube when siphonage is established. From the side of the reservoir runs a rubber tube three or more feet long. The top of the reservoir is a screw-top cap. Into the opening of each tube, at the bottom of the reservoir, may be screwed a brass plug to close one or several of the tubes if necessary. The instrument can be sterilized perfectly, there being no complicated parts.

The primary cause of the peritonitis is found and repaired or removed if possible. Through a median suprapubic incision three inches long, the hepatic and splenic tubes are inserted and pushed gently along, lifting the abdominal wall, toward their respective fossæ. The pelvic tube is guided by the finger in its proper direction; and the appendix tube in a similar manner. Each tube as it is put into place is snapped into its proper hole in the bottom of the reservoir. The bottle of salt solution is now connected with the distal end of the rubber supply tube of the reservoir, the fluid passes down through the reservoir out through each of the four tubes, and is allowed to run on in until the abdomen is distended and fluid begins to leak through the wound about the reservoir. The supply tube is detached from the water bottle, pinched at the end at the same time to keep it full of fluid, and is then lowered to below the level of the patient. This column of water in the supply tube at once establishes siphon drainage and the abdomen is drained at least till the end of one inner tube is above the level of the remaining fluid. This alternate flooding and draining of the abdominal cavity can be done often without disturbing the patient, the amount of pressure influx being regulated by the height of the supply bottle.

St. Louis Medical Review.

December 29.

23 *Tuberculous Adenitis Treated with the Roentgen Rays. R. H. Boggs, Pittsburg.
24 Pathologic and Clinical Diagnosis of Sarcoma. (To be continued.) M. G. Seelig, St. Louis.

23. See abstract in THE JOURNAL, Sept. 15, 1906, page 888.

Lancet-Clinic, Cincinnati.

December 29.

25 Cessation of Menstruation as an Evidence of Pregnancy. M. A. Tate, Cincinnati.
26 Surgical Treatment of Trifacial Neuralgia. A. Schachner, Louisville.
27 Atheroma, or Endarteritis Deformans. N. I. Frald, Cincinnati.

St. Paul Medical Journal.

January.

28 *Operative Treatment of Prolapse of the Uterus, with Reference to Shortening the Uterosacral Ligaments. J. L. Rothrock, St. Paul.
29 *Relation of Physiologic Chemistry and Microscopy to the Practice of Medicine. R. O. Beard, Minneapolis.
30 *Function of the Vermiform Appendix. E. A. Hoefer, Clear Lake, S. Dak.
31 Case of Syringomyelia. C. R. Ball, Minneapolis.
32 Certain Physiologic Considerations of the Digestive Glands. F. S. Bissell, Maple Lake, Minn.

28. **Prolapse of Uterus.**—The method of operating for prolapse of the uterus which has been adopted by Rothrock may be described briefly as follows: If the uterus is enlarged, a curettement is first made, followed by amputation of the cervix, especially if it is elongated. In case there are decubitus ulcers in complete prolapse, the ulcers are excised, and the wound closed. In case there is prolapse of the anterior vaginal wall with marked cystocele, anterior colporrhapy is always indicated. Following this the relaxed vaginal outlet is repaired by one of the various operations, depending on the case, always having in view the restoration of the torn or relaxed levator ani muscle. Having completed the plastic operations on the vagina, the abdomen is opened by a transverse curved suprapubic incision extending down to the rectus muscles, after the manner of Kustner's operation. The recti muscles are separated by a median incision, the flap of skin and fascia being held up out of the way by a retractor.

After opening the abdominal cavity the patient is placed

in the extreme Trendelenburg position, so as to allow the intestines to gravitate up into the abdomen. A large square of gauze is placed over them and they are easily kept out of the pelvis by a retractor. The patient is lowered to a horizontal position and the uterus grasped by a forceps and brought into the field of operation. By gently raising the uterus the uterine insertion of the uterosacral ligaments may be seen and grasped with a forceps. At a point from 3 to 5 cm. from the uterus, and with a strongly curved needle a fine silk suture is passed deeply into the inner surface of the ligament and is brought out near the free border. The needle is reintroduced on the same side of the ligament at a point sufficiently far back toward the sacral insertion to take up the slack. The suture is now tied, and if a wider adhesion is desirable, the suture may be reintroduced and carried through once more as before and again tied. If a more secure adhesion is desired, the points of approximation may be denuded of the peritoneum, but if silk is employed as suture material this is unnecessary. The folded portion of the ligament is now spliced to the side of the new formed ligament by a couple of interrupted silk sutures passing through the folds. The opposite side is now dealt with in a similar manner. Since 1903 Rothrock has employed this method of operating for prolapse in 15 cases, in several of which the prolapse was complete. In all the results have so far been excellent.

29. **Relation of Physiologic Chemistry and Microscopy to Medicine.**—Beard says that in the service of surgery and internal medicine alike, this branch of physiologic science is destined to fill an important rôle. It offers to the general practitioner an element of added interest and accuracy in clinical observation. To the expert it offers an opportunity which will become greater with its own rapidly increasing growth.

30. **Function of Appendix.**—Hoefer concludes that inasmuch as the intestinal tract is not complete in development until about the twentieth or twentyfifth year of life, and the appendix is well developed at the end of the first or second year of life, as well as the fact that an appendix shows no fibrous tissue increase within its submucous coat, the evidences of impending obliteration at the age of 20 years, seems rather convincing in the assumption that the appendix, if it has a function, must have its greatest physiologic activity during the period taken by the intestinal canal to become fully organized. Consequently, he takes the position that the appendix assists the general intestinal canal in a certain measure during its developmental period, or until the latter organ is well able to take care of itself, thus constituting somewhat of a compensatory function. What the direct value of this secretory function is to the economy or to the digestive process, he is unable to say, but he suggests that if the theory advocated by Bunge is in reality an accepted fact, the theory herein advocated must comparably be the same. Arguments and views in favor of this assumption are that a child of ten years of age is able to digest such food as is taken by an adult with as much facility as one in whom the intestinal canal is completely developed.

The Military Surgeon, Carlisle, Pa.

January.

33 The Russian Red Cross Society. V. Havard, U. S. Army.
34 Statistics of Venereal Disease in the United States Navy. J. C. Wise, U. S. N.
35 The Walter Reed General Hospital of the United States Army. W. C. Borden, U. S. Army.
36 *Steam Blast as a Mosquitocide. T. D. Berry, P. H. & M.-H. S.
37 Where Treatment of All Infected is the Surest Prophylactic Measure—the Problem of Epidemic Uncinariasis in Porto Rico. B. K. Ashford, U. S. Army.

36. **Steam Blast as a Mosquitocide.**—In seeking for means to exterminate mosquitoes safely and effectively, Berry conceived the idea that spraying live steam through a nozzle would do the work, and that a city fire engine would have a boiler adapted to the work; steam could not be obtained in it quickly and in large quantities. He obtained the use of an unused fire engine and a skilled engineer to operate it. The dome of the boiler was pierced and a valve stem inserted. To this could be attached the steam hose, 200 feet of which was used and carried about on a hand reel. A team and driver was obtained, a crew of four to handle the hose and the plan was tried out. The first thing found was that the nozzle was too hot to hold. A long pole was attached to the nozzle, and in this way the steam could be carried directly against a ceiling. The engine was driven directly in front of a house, the hose carried into the yard and at a signal the steam was turned on; with a screech the steam would leap from the boiler to a distance of from six to twelve feet. This would last from ten to fifteen minutes, depending on the pressure in the boiler. When the certainty of its success was apparent, the steam pressure in the boiler was increased from 75 to 150 pounds pressure and some of this 150 pounds pressure was then transferred to the under side of galleries, stairways, archways, outhouses, half enclosed sheds, wash houses, chicken coops, and turned on trees, shrubbery, drains and gutters, and under houses themselves, when they were raised from the ground. In fact it was turned into every spot that could afford refuge to the stegomyia and yet could not be sufficiently enclosed to fumigate. Not all mosquitoes were killed by this blast, but it killed a great many stegomyia mosquitoes, many of them doubtless infected, which could not be reached in other ways.

In addition to the force of the blast, it was discovered that the heat could be utilized if in an enclosed space. When the nozzle was thrust into the top of a barrel of water and the cover quickly laid on the barrel, the temperature of the inside could be raised to the boiling point in a short while. Cisterns, too, were similarly treated but took longer to heat up. Berry says he does not know of a better and more efficient method to kill mosquitoes in cisterns and barrels, and this, too, without injury to the potability of the water.

Archives of Pediatrics, New York.

December.

38 Classification of Gastroenteric Diseases on an Etiologic Basis. T. M. Rotch, M. Ladd and C. H. Dunn, Boston.
39 *Acidified Milk in Infant Feeding. J. L. Morse, New York, and H. L. Bowditch, Boston.
40 Delivery of Milk and Its Care in the Home. G. Abbott, Philadelphia.
41 *Diagnosis of Late Hereditary Syphilis in the School Child. G. De S. Saxe, New York.

39. **Acidified Milk in Infant Feeding.**—According to Morse and Bowditch buttermilk, buttermilk mixtures and milk mixtures acidified with lactic acid bacteria are safe foods for infants, whether well or ill. Infants can thrive and gain on them for considerable periods of time. The use of a routine buttermilk mixture, as has been the custom in the past, he thinks, is not so rational as that of an acidified milk mixture modified to suit the individual case, or of buttermilk modified by the addition of cream and milk sugar. The preparation of such acidified mixtures, while not difficult, is not very practicable for private work. These mixtures and buttermilk are almost always taken well.

The results obtained from acidified milk mixtures in cases of malnutrition and chronic disorders of digestion are not materially different from those obtained from the use of other preparations of milk of the same percentage. They are worthy of trial, however, in cases of intractable disturbances of digestion, because some cases do much better on them than on other forms of modified milk. Morse and Bowditch have found that practically the same, and in some instances better, results are obtained in these conditions with pasteurized buttermilk as with acidified milk mixtures. This fact suggests strongly that the good results which are obtained with buttermilk mixtures are due to their low fat content in combination with a large amount of proteid in an easily digestible form, and not to the acidity or to the action of the bacteria. Pasteurized buttermilk gives very good results when given as the first form of milk food after initial periods of water and starchy diets in acute intestinal indigestion and infectious diarrhea. Morse and Bowditch think it is possible that unpasteurized buttermilk will give even better results because of the action of the lactic acid bacteria on the intestinal flora. Fat free milk acidified with pure cultures of lactic acid bacteria ought, however, to be safer and more reliable than commercial buttermilk.

41. **Hereditary Syphilis in the School Child.**—Among 2,500 school children who were subjected to a thorough physical examination, Saxe found but 12 in whom physical signs justified a presumptive diagnosis of hereditary syphilis. Owing to the peculiar conditions of the investigation no family histories could be obtained. The children examined ranged from 6 to 16 years, and about equal numbers of boys and girls were studied. The children with hereditary syphilis ranged from 6 to 14 years of age. Five were boys and seven girls. All save one were deficient mentally; eight children showed Hutchinson's teeth; four showed the remains of syphilitic eye lesions and one showed an active keratitis. Three of the 12 had hydrocephalic heads. All showed retarded physical development, and seven of the total number showed associated rickety changes in the bones. Nine showed scars about the mouth; all had enlarged glands; two had lesions of the nose and none in the throat. Chorea was present in two. While hereditary syphilis does not seem to be common in the children of New York public schools, Saxe says, it constitutes an affection which must be looked for by the school examiner; and if sufficiently characteristic signs are found, he is justified in calling the family physician's attention to these signs as indicating a possible specific taint. The duty of the family physician in such cases is obvious.

Ohio State Medical Journal, Columbus.
December 15.

42 Surgery of Cervical Tubercular Lymph Nodes. R. Carothers, Cincinnati.
43 *Intraperitoneal Tuberculosis. F. F. Lawrence, Columbus.
44 Treatment of Pulmonary Tuberculosis in Private Practice. J. P. Dewitt, Canton.
45 Physical Exercise in Lung Tuberculosis. C. G. Randall, Harveysburg.
46 *Percussion Tenderness. A Symptom of Value in the Diagnosis of Pulmonary Tuberculosis. S. Iglauer, Cincinnati.
47 Tuberculosis. F. S. Baron, Zanesville.
48 Practical Use of the Cystoscope. S. S. Wilcox, Columbia.
49 Large Urethral Calculus. M. Metzenbaum, Cleveland.

43. **Intraperitoneal Tuberculosis.**—Lawrence is of the opinion that intraperitoneal tuberculosis is frequently a local disease, occurring much more frequently in the female than in the male. In a large majority of cases it is primarily visceral and the general peritoneum is secondarily involved. The surgical treatment is rational, sometimes agreeably surprising in results, and again bitterly disappointing. Early recognition and early operation will bring more certain results. Lawrence says that no case of intraperitoneal tuberculosis should be denied the benefit of operation, no matter how extensive, so long as there is no positive pulmonary or pleuritic involvement for the reason that in some apparently hopeless cases the patients fully recover. When there is a tuberculous peritonitis a sequel of tuberculous tubes, ovaries or appendix, the primary focus should always be removed. In these cases Lawrence has not found the mesenteric glands involved frequently, and when they are it is his judgment that operation accomplishes very little good. In tuberculosis of tubes and ovaries the adhesions are usually very firm, sometimes, though not usually very vascular and not infrequently involve loops of the small intestine, hence the greatest care is necessary to avoid serious injury to the bowel and at the same time to separate completely all adherent surfaces and to provide complete drainage. Drainage is the great factor in recovery and should be a drainage that drains, not one which obstructs.

46.—See abstract in THE JOURNAL, Jan. 5, 1907, page 80.

Cleveland Medical Journal.
December.

50 Newer Ideas of the Causes and the Treatment of Bright's Disease. A. C. Croftan, Chicago.
51 Ten Types of Ophthalmic Charlantanism. G. M. Gould, Philadelphia.
52 *Two Hundred and Ten Cases of Acute Articular Rheumatism. J. Phillips, Cleveland.
53 Adult Flat Foot—Symptoms and Treatment. W. G. Stern, Cleveland.

52. **Acute Articular Rheumatism.**—In the 210 cases of acute articular rheumatism studied by Phillips heredity was a factor met in 7 per cent. of the patients. Endocarditis was the most common complication of rheumatism. Undoubted valvular lesions were present in 63 cases, or 30 per cent. In only 28 of these was the endocarditis of recent origin. In 56, or 89 per cent., the mitral valve was involved; the aortic valve was affected in 13, or 20.6 per cent. Both aortic and mitral orifices were involved in 11, or 17.4 per cent. Pericarditis occurred in 10 cases, of which two were fatal. In four of these there was effusion into the pericardium of varying amounts. As a rule the effusion was small.

There were 31 cases in this series in which a systolic murmur was heard either at the apex or base of the heart, with no appreciable increase in the area of cardiac dulness and without the murmur, when present at the apex, being transmitted into axilla. Pleurisy was noted in six cases, one of which was accompanied by effusion. Pneumonia was present in two cases, one of which was fatal. Tonsillitis developed during the illness or was present before in 38 cases, or 18.1 per cent. Nervous complications occurred in 13 cases. Of these four patients had delirium, in one of whom it seemed to be associated with the giving of salicylates. In another case it assumed the type seen in delirium tremens, the patient having previously had attacks of this disease. Chorea was associated with present or previous attacks of rheumatism in eight cases, or 3.8 per cent. These were all in children or in young adolescents. Serious meningitis was noted at autopsy in one fatal case. Subcutaneous fibroid nodules were observed in four patients. Erythema multiforme was seen about the buttocks and upper part of the thighs in three cases. Rheumatic purpura, appearing as a bright red petechial eruption over both shins and accompanied by considerable tenderness, was noted in two cases. Urticaria occasionally develops and sudamina are very common because of the excessive perspiration. In one case complicated by pneumonia marked jaundice was present.

Ophthalmic Record, Chicago.
December.

54 Immersion Treatment with Argyrol Solutions of the Purulent Ophthalmias. H. D. Bruns, New Orleans, La.
55 *Primary Tuberculosis of Cornea. E. Smith and H. Gibbs, Detroit.
56 Fissures in the Membrane of Descemet Probably Due to High Myopia. C. A. Wood, Chicago.
57 Present Status of the Eye and Ear Tests for School Children. F. Allport, Chicago.
58 Treatment for Acute and Chronic Abscess of the Lachrymal Duct and for the Relief of Epiphora. J. W. Wamsley, Philadelphia.
59 *Angioma of the Conjunctiva Successfully Treated by Injections of Absolute Alcohol. H. Gifford, Omaha, Neb.
60 Case of Non-Traumatic Plastic Iridocyclitis which Eventuated in Sympathetic Ophthalmia. G. F. Suker, Chicago.
61 Case of Scleritis. B. P. Croft, Greenfield, Mass.

55. **Primary Tuberculosis of Cornea.**—Smith and Gibbs report what they believe to be the first case of tuberculosis of the cornea on record, occurring in a woman aged 44. Through the transparent margin of the cornea a white growth could be seen filling about two-thirds of the anterior chamber, extending backward from the cornea. There was no evidence of corneal ulceration. There was no history of tuberculosis in the patient's family, nor any further appearance of the disease in herself. There has never been any abrasion of the cornea. The eye was enucleated. The diagnosis was confirmed by the microscope, although no tubercle bacilli could be found.

59. **Angioma of Conjunctiva.**—In the case reported by Gifford the injection of two or three drops of absolute alcohol caused the injected portions to assume a pale grayish-pink color, and after a week or ten days the tumor was much reduced in size. The injections were then repeated, the needle being carried part of the time one-half inch into the orbit along the inner side of the globe. After this alcohol was injected every two or three weeks for the next two months; at the end of this time the original tumor had practically disappeared, but now the conjunctiva from the outer third of the corneal margin to the external canthus, which had seemed normal, became dark red, and fearing an extension of the growth around the deeper portions of the globe, more alcohol was injected, three-fourths of an inch deep, along the inner wall of the globe and half an inch deep into upper and lower fornices. After this the improvement was steady, and when the patient went home there was no tumor visible, and the only trace of the former trouble was a moderate congestion of the inner half of the conjunctiva, which was steadily improving.

The injections were always made during light chloroform anesthesia and were followed by only moderate swelling and very little pain. At no time was there any sign of breaking down or necrosis on the surface. During the whole course of the treatment the only symptom that caused the least anxiety was a swelling of the left side of the face which developed two or three days after the last deep injections had been made into the orbit. The child seemed depressed and the cheek below the zygomatic process was rather puffy for several days, but this all cleared up without any special treatment.

Virginia Medical Semi-Monthly, Richmond.

December 21.

62 Treatment of Cancer. J. S. Horsley, Richmond.
63 Twenty Consecutive Abdominal Operations Performed at St. Luke's Hospital. E. N. Liell, Jacksonville, Fla.
64 *Benefits of the County Medical Society. J. W. Freed, Staunton.
65 *Surgical Treatment of Typhoid. W. R. Aylett, Newport News.
66 Management of Acute Appendicitis in Country Practice. M. P. Jones, Churchville, Va.
67 European Clinics and Clinicians. C. E. Barnett, Ft. Wayne, Ind.
68 A Case of Alcoholism. G. B. Simson, Webster Springs, W. Va.
69 Importance of Enforcing Proper Sanitary Conditions with Daily Medical Supervision of Prisons. C. V. Carrington, Richmond.

64. **Benefits of County Medical Society.**—Freed states that one of the greatest and noblest missions of the county medical society is its beneficent influence in overcoming prejudices and engendering good feeling among its members. If no other object were sought to be attained by the organization of the county society than to secure the friendly intercourse of all its members, the accomplishment of that alone would be ample compensation for all the time, money, labor and enthusiasm ever expended in that behalf. Many of the supposed wrongs are greatly magnified and often entirely imaginary. By all members meeting together more frequently and uniting in the various duties as society members, a better understanding will be brought about, and most of these annoyances will fade away. Some of these prejudices may rest on real or fancied breaches of the code of ethics, but it has been the experience of local societies that physicians who are reputed to be unethical before becoming members proved to be as ethical as the rest after joining the society. The county society, then, has the influence of suppressing unethical tendencies among physicians.

65. **Surgical Treatment of Typhoid.**—The favorable results obtained in serious cases, both surgical and medical, have led Aylett to believe that saline solution, by virtue of its antitoxic, feeding, stimulating and flushing effect, is useful in many cases in which it has never been tried. In several cases of general peritonitis following ruptured appendices, patients were saved by frequent (every three hours) irrigation of the peritoneal cavity for several days. Such cases led him to hope that good results would follow the intraperitoneal use of saline solutions in typhoid. In the first case in which Aylett tried this method a very small incision was made just under the ensiform cartilage, the tissues being deadened with a 2 per cent. cocain solution. A rubber catheter was then introduced and nearly three pints of saline solution at a temperature of 103 F. were run into the abdomen. The patient complained of some pain and a sense of fulness, but these proved transient. Within two hours the temperature dropped from nearly 104 to 102.5 F. and the pulse dropped from 102 to 96. Six hours later the temperature was 102.4 and the pulse 92 and decidedly stronger. A large quantity of urine had been voided in the meanwhile. The next afternoon a pint of solution was introduced and at 6 o'clock the temperature was 102 and pulse 95. This was repeated three times. On the ninth day temperature and pulse were normal all day. Bowels moved freely about noon. For the next ten days there was no abnormality of temperature or pulse, nor were any sequelæ observed.

Southern California Practitioner, Los Angeles.

December.

70 Public Health of Our City During the Last Five Years. G. H. Kress, Los Angeles.
71 *Altitude and Pneumonia. I. W. Brewer, Ft. Huachuca, Ariz.
72 Nutrition and Tuberculosis. C. C. Browning, Monrovia.
73 Strabismus in Children. B. F. Church, Los Angeles.
74 Housing Conditions of Los Angeles. T. Coffey, Los Angeles.
75 Tuberculous Disease of the Spine. P. C. H. Pahl, Los Angeles.

71. **Altitude and Pneumonia.**—From a study of the statistics of lobar pneumonia for the entire United States Army from 1870 to 1874, during which time there were among 24,349 men 768 cases of lobar pneumonia with 114 deaths, Brewer concludes that altitude has nothing to do with the mortality from lobar pneumonia; that latitude within the range afforded by the territory of the United States has nothing to do with the mortality; that the mortality among the colored soldiers is about twice as great as among white soldiers, 26.3 per cent. and 13.9 per cent. respectively.

Journal of the Arkansas Medical Society, Little Rock.

December 15.

76 *Surgery in the Treatment of Gastric Ulcer. J. P. Runyan, Little Rock.
77 Carcinoma of the Uterus. C. R. Shinault, Little Rock.
78 Two Cases of Endometritis. E. L. Beck, Texarkana.

76. **Surgery in Gastric Ulcer.**—Runyan says that it is remarkable how quickly and rapidly a patient improves after a gastroenterostomy done for the relief of pyloric obstruction, the result of a simple ulcer. Some of the most miserable people on earth may be made the most happy by a simple operation. Runyan believes that it is little less than criminal to continue medical treatment after obstructive symptoms are present.

Physician and Surgeon, Ann Arbor, Mich.

November.

79 Medical Ethics and Etiquette. G. Dock, Ann Arbor.
80 Clinical Aspects of Paretic Dementia. I. H. Neff, Pontiac, Mich.
81 Gross Pathologic Conditions of the Urethra as Revealed by the Urethroscope. N. E. Aronstam, Detroit.
82 Medicolegal Questions. E. S. McKee, Cincinnati.

Buffalo Medical Journal.

December.

83 *Social Evil. D. Lewis, Chicago.
84 Diagnosis and Treatment of Accidental Hemorrhage. A. H. Wright, Toronto, Canada.
85 Why Minor Gynecologic Operations Fail of Anticipated Results. S. Goldberg, Buffalo, N. Y.

83. **The Social Evil.**—Denslow Lewis thinks that a commonsense view must be taken of the momentous subject of the so-called social evil. The sexual instinct, which is one of the most powerful guiding influences of humanity, can not be ignored. It must be most carefully and thoroughly studied, for it is this masterful instinct that makes prostitution possible. Lewis does not hold with some that it is mainly due to female degeneracy, but believes rather that man is the more to blame in the majority of cases. We should be just to the woman, even if she is depraved, she is often a victim of the existing social order, and he believes with Lecky that the prostitute is, in a sense, a guardian of virtue. He believes in segregation of the social evil in our cities, and that its recognition does not mean sanction or legal endorsement. The disastrous prevalence of veneral diseases forces on us the practical consideration of the subject. Methods of the past in combating the evil have failed, but he thinks that there is promise of good in the different lines of attack that are now being taken up, and sees our supreme hope in the educational methods now being adopted.

New York State Journal of Medicine.

December.

86 Surgical Treatment of Indigestion. E. S. McSweeny, New York.
87 Clinical Chemistry of the Blood in Various Diseases. H. S. Carter, New York.
88 The Fitting of Glasses. S. W. S. Toms, Nyack, N. Y.
89 Remote Heredity and Asymmetrical Development. G. O. Williams, Greene, N. Y.
90 History of the Medical Society of the State of New York. (To be continued.) J. J. Walsh, New York.

Bulletin American Academy of Medicine, Easton, Pa.

December.

91 Friendship of Dr. Nathan Smith and Dr. Lyman Spalding. J. A. Spalding, Portland, Maine.
92 Senility. A. L. Benedict, Buffalo.
93 Manual Training for Medical Students and Instruction in the Principles of Psychotherapy. G. H. Hill, Des Moines, Iowa.

Canadian Practitioner and Review.

December.

94 Relation of the Physician to His Pregnant Patient. W. P. Manton, Detroit.
95 Evolution of Medicine in Ontario. H. B. Anderson, Toronto.
96 Treatment of Diffuse Purulent Peritonitis. J. F. W. Ross, Toronto.
97 Faucial Tonsils, Abnormal Conditions and Treatment. J. Hunter, Toronto.

St. Louis Courier of Medicine.

December.

98 Spasmophilia. J. Zahorsky, St. Louis.
99 Uremia in an Infant, Simulating Meningitis. W. L. Johnson, St. Louis.

Journal of the Association of Military Surgeons, Carlisle, Pa.

December.

100 Technic of a Yellow Fever Campaign. W. C. Rucker, U. S. P. H. & M.-H. S.
101 Practical Sanitation with Mobilized Troops in the Field and in Semi-Permanent Camps. L. M. Maus, U. S. Army, and W. J. L. Lyster, U. S. Army.
102 Medical and Sanitary Questions Met in Every-Day Life on a Cruising Ship of the Navy. M. H. Simons, U. S. Navy.
103 Hand and Instrument Disinfection. J. C. De Vries, Brooklyn, N. Y.

Medical Fortnightly, St. Louis.

December 10.

104 Gastrogenic Diarrhea. C. D. Aaron, Detroit, Mich.
105 Interesting Problems in Ear, Nose and Throat Practice. R. Barclay, St. Louis.
106 Pathologic Physiology. B. Robinson, Chicago.
107 Talks to Recent Graduates. A. L. Benedict, Buffalo.
108 Hysteria in the Male. P. J. Weber, St. Louis.
109 Case of Friedreich's Ataxia. F. J. Weber, St. Louis.

Journal of Mental Pathology, New York.

Vol. VIII, No. 1.

110 The Helweg-Westphal Tract. A. Giannelli, Rome, Italy.
111 Hysteria Simulating the Syndrome of Brown-Séquard. P. Timpano, Rome, Italy.
112 Physiologic Effects Following Successive Ablation of One Frontal Lobe and One Cerebellar Hemisphere. G. Mingazzini and O. Polimanti, Rome, Italy.
113 Genesis of Sex. L. G. Robinovitch, Paris.

New Orleans Medical and Surgical Journal.

December.

114 Origin of Sporadic Cases of Yellow Fever. G. E. Beyer, New Orleans.
115 Malarial Hematuria. B. O. LeBlanc, St. Gabriel.
116 Summary of Our Knowledge Concerning Stegomyia Fasciata. J. C. Smith, New Orleans.
117 Grafting of the Cervix as a Cure for Ulceration. S. C. Landauer, New Orleans.
118 Sudden Death with an Unexplained Symptom. C. W. Allen, New Orleans.
119 Results in Some Cases of Pulmonary Tuberculosis Treated by the Sanitarium Method. W. A. Durel.

Annals of Gynecology and Pediatry, Boston.

December.

120 Ectopic Gestation. H. F. Quackenbos. (To be continued.) New York City.
121 Non-Absorbable Ligature in Pelvic Surgery. F. C. Hammond, Philadelphia.

Detroit Medical Journal.

December.

122 The Physician as a Character in Fiction. (To be continued.) C. B. Burr, Flint, Mich.
123 Somnoform. T. J. Collins, Detroit.
124 Simple Elixir as a Vehicle in Prescriptions Intended for Children. E. F. Heffner, Lock Haven, Pa.

Denver Medical Times.

December.

125 Case of Cerebrospinal Meningitis. F. W. Kenney, Denver.
126 Treatment of Cerebrospinal Meningitis. H. B. Whitney, Denver.
127 Id. C. F. Shollenberger, Denver.
128 Id. J. E. Courtney, Denver.
129 Surgical Causes, Surgical and Other Non-Medicinal Treatment of Chronic Constipation. J. R. Hopkins, Denver.
130 Calcium Sulphid in Gonorrhea. R. J. Smith, Smithfield, Utah.

Utah Medical Journal.

December.

131 Reflex Neuroses from Eye Strain. D. C. Bryant, Omaha, Neb.
132 Clinical History of a Few Gastric Ulcer Cases. H. D. Niles, Salt Lake City.

Bulletin of the Johns Hopkins Hospital, Baltimore.

December.

133 Comparative Surgery. F. W. Bancroft, E. S. Cross, G. R. Henry, W. D. Gatch, J. G. Hopkins, A. R. Dochez, etc., Baltimore.
134 Note on the Finding of Coccidium Bigeminum. F. W. Bancroft and E. S. Cross, Baltimore.
135 Chronic Endocarditis with Bloody Ascites in a Dog. G. R. Henry.
136 Radical Cure of Prolapsus Vaginæ in the Dog. W. D. Gatch, Baltimore.
137 Six Cases of Infection with Filiaria Immitis in Dogs. J. G. Hopkins, Baltimore.
138 Hernia in Dogs. A. R. Dochez, Baltimore.
139 Sarcoma of an Undescended Testis in a Dog. W. v. Gerber, Baltimore.
140 Observations on Distemper. G. J. Heuer, Baltimore.
141 Tuberculosis, a Social Disease. S. A. Knopf, New York.
142 Influence of Aggressins on General Infection of the Uninjured Genital Tract of Animals. C. B. Towles, Baltimore.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Correction.—Recognition of Blood and Seminal Stains.—Hankin corrects an error made in a previous paper, an abstract of which appeared in THE JOURNAL, Dec. 8, 1906, page 1959. After the seminal stains have been treated with tannin solution and with dilute ammonia, they should be immersed for five minutes in a solution containing 1 in 10,000 potassium bichromate and 1 in 1,000 sulphuric acid. From this solution they are transferred to the cyanid solution, as described in the paper.

British Medical Journal.

December 22.

1 Exanthem of Scarlet Fever and Some of its Counterfeits, and the Clinical Significance of Skin Hemorrhages in Diphtheria. J. MacCombie.
2 *Physiology and Pathology of the Nucleus. J. G. Adami.
3 *Classification and Experimental Production of Arteriosclerosis. O. Klotz.
4 Changes in the Nervous System Produced in Chronic Trypanosome Infections. F. W. Mott.
5 Treatment of Trypanosomiasis by the Colors of Benzidine. M. Nicolle and F. Mesnil.
6 Experiments with Vaccine Lymph. J. R. Ballah.
7 *Bacteriology of Rheumatic Fever. J. M. Beattie.
8 Combining Properties of Opsonins of Normal Serum. R. Muir and W. B. M. Martin.
9 Acceleration of the Action of the Pancreatic Juice by the Salts of Calcium. E. Delezenne.
10 Nucleoproteid Immunity. S. P. Beebe.
11 *Metabolism of Kreatin and Kreatinin. O. Folin.
12 Chemical Studies on Growth. L. B. Mendel.
13 Effect of Ions on Growth and Cell Division. B. Moore, H. E. Roaf and E. Whitley.
14 *Physiologic Action of Certain Cholin Derivatives and New Methods for Detecting Cholin. R. Hunt and R. de M. Taveau.
15 Liberation of Phosphorous from Nuclein Compounds. F. H. Scott.
16 Active Alkaloid from Ergot. G. Barger, F. H. Carr and H. H. Dale.
17 Estimation of the Quantity of Chloroform in Blood and Tissues. M. Nicloux.
18 Micro-Chemistry of the Blood Plates. G. T. Kemp.
19 Transplantation of Blood Vessels and Organs. A. Carrel and C. C. Guthrie.
20 Evolution of Elementary Tissues in Relation to Physiologic Function. C. F. Hodge, O. P. Dellinger and F. N. Duncan.
21 Lymphatics of the Liver. P. T. Herring and S. Simpson.
22 *Experimental Glycosuria. J. J. R. Macleod.
23 Excretion of Urine. V. E. Henderson.
24 Method of Investigating the Deep Ganglia and Tracts of the Central Nervous System (Cerebellum). R. H. Clarke and V. Horsley.
25 Electrical Excitation of Nerves and Muscles. L. Lapicque.
26 Physiologic Significance of the Convolutional Pattern in the Primates. F. W. Mott.
27 Conduction of Sensory Impressions in the Spinal Cord. S. Simpson and P. T. Herring.
28 Mechanism of Locked Jaw Produced by Tetanus Toxin. H. E. Roaf and C. S. Sherrington.
29 Vagus Reflexes on Esophagus and Cardia. S. J. Meltzer and J. Auer.
30 Various Forms of the Negative or Physiologic Venous Pulse. W. S. Morrow.
31 *Acapnia as a Factor in Shock. Y. Henderson.
32 Chronic Suppurative Dacryocystitis and Its Radical Treatment. F. T. Tooke.

2. Physiology and Pathology of Nucleus.—Adami's paper brings out the dominance of the nucleus in all functions. For instance, in studying the process of fertilization it is found that the only matter contributed correspondingly by both parents is nuclear matter. Therefore, it is evident that the nuclear matter contains and determines, or controls, the inherited peculiarities of the individual; further, the conveyance is through matter contained in the chromatin loops, or chroma, while it may be that these individual loops, varying among themselves, determine particular condition. When the nucleus is removed, as in the red blood corpuscles, it is manifested that the nucleus is essential not merely for the vegetative activities, but also for the higher metabolic activities of the cell and their due co-ordination. The gross changes that take place in the nucleus during activity show that the nucleus is involved considerably in the functional activities of the cell, and the indications are that the higher syntheses, those associated with growth and those governing the specific enzyme actions of the different forms of cells, are determined and initiated by the nuclear matter, which possesses in itself potentialities superior to those of any ordinary constituent of the cell body.

3. Experimental Production of Arteriosclerosis.—Klotz' experiments show that there is a form of arteriosclerosis in ani-

mals in which a primary proliferation of the intima, including the musculo-elastic layer, is the prime feature. Klotz sums up his experiments as follows:

1. The effect of the high-pressure drugs (adrenalin chlorid digitalin, and barium chlorid) on the arteries is a degenerative one, as was described by Fischer and Erb for adrenalin.
2. The muscle cells of the media are first attacked, while the elastic fibers of this layer are also involved later.
3. At a proper stage of the degeneration a fatty change can be demonstrated in the tissues, followed by calcification.
4. The middle zone of the media is always involved.
5. Occasionally secondary reactions occur in intima which are of a proliferative nature.
6. The effect of adrenalin is not abolished by lowering the blood pressure with nitroglycerin.
7. The aneurisms are produced as a result of the destruction in the media.
8. These experimental lesions are in every respect similar to the Moenckeberg type of arteriosclerosis.
9. The effect of diphtheria toxins on the arteries is similar to that of the adrenalin series.
10. Typhoid and streptococcus infections produce little destruction of tissue cells, but tend to stimulate cell proliferation in the intima and inner layer of the media.
11. Vessel changes are brought about by these infections, which correspond to arteriosclerosis, as described by Jores.

7. **Bacteriology of Rheumatism.**—Beattie's experiments have convinced him that the results obtained by injections of streptococcus are different from those produced by the *Micrococcus rheumaticus*, and that the latter can not be regarded as an attenuated streptococcus, nor is acute rheumatism an attenuated streptococcal pyemia. In uncomplicated cases of acute rheumatism the organism is not usually found in the blood or in the joint exudate. Where the arthritis is the principal manifestation of the disease, the organism may be missed altogether, unless several different areas of the synovial membranes are examined. Beattie's views have been published before and it is not necessary to repeat them.

11. **Kreatin and Kreatinin.**—A number of feeding experiments with these two substances have given Folin the following results in the case of normal men. Kreatinin given with the food is almost completely eliminated with the urine in the course of 24 hours. Kreatin given in moderate quantities (1 to 2 grams) together with a low nitrogen diet (starch and cream) is neither converted into kreatinin nor eliminated as unchanged kreatin or as urea. It is, in fact, not eliminated at all. When large quantities of kreatin (5 to 6 grams) are given, together with a low nitrogen diet, a small quantity of kreatin (1 gram) is eliminated unchanged in the course of 24 hours. The remaining larger part is not eliminated at all. When the system is thus flooded with kreatin, its normal daily kreatinin elimination remains unchanged. When kreatin is taken together with diets rich in protein a very large part of it (50 per cent.) is eliminated unchanged in the course of 24 hours. The kreatinin elimination is not affected. When very large quantities of meat (1,300 grams beef) are fed to a normal person the normal kreatinin elimination is but slightly increased (0.2 to 0.3 gram). Under the same conditions the kreatin elimination, ordinarily absent or too small to be detected, amounts to 3.5 to 4 grams.

22. **Experimental Glycosuria.**—The results of Macleod's experiments are summarized as follows:

1. On dogs rendered glycosuric by stimulation of the central end of the vagus, nicotin injections sufficient to cause blocking of the vagus produce a distinct fall in the amount of sugar in the blood. This diminution in blood sugar appears in from twenty to forty minutes after injection, and seems to pass off in about two hours.
2. Hemorrhage sufficient to lower the arterial blood pressure to about 50 mm. Hg, instead of causing a diminution in the percentage of blood sugar, causes a distinct increase. This increase is less marked when asphyxia is carefully guarded against by oxygen inhalation. The depression in reducing power of the urine after hemorrhage must therefore be due to some renal mechanism.
3. Stimulation of the peripheral end of the splanchnic nerves, or of the spinal cord below the fifth dorsal roots, causes no increase in the percentage of sugar in the blood.

31. **Acapnia, a Factor in Shock.**—Henderson thinks it probable that the hyperpnea induced by intense pain and the hyperpnea incident to some of the stages of anesthesia, by causing an over-ventilation of the blood, produces a condition of at least partial acapnia, and that acapnia is an important factor in the production of shock.

The Lancet, London.

December 22.

33 *Art and Medicine. L. Mark.
34 *Heart Massage as a Means of Restoration in Cases of Apparent Sudden Death. T. A. Green.
35 *Large Arterio-Venous Aneurism of the Neck Treated by Excision. J. Berry.
36 *Three Interesting Heart Cases. R. G. White.
37 Treatment of Ovarian Prolapse by Shortening the Ovarian Ligament. V. Bonney.
38 *Operation for the Cure of Prolapsus Ani and Internal Hemorrhoids. D. Newman.
39 Intussusception and Volvulus Occurring at Intervals in the Same Patient. E. E. Ware and L. G. Glover.
40 Influence of Calcium Chlorid on the Agglutination of Vibrios. M. Crendiropoulo and C. B. S. Amos.

33. **Art and Medicine.**—In the concluding paragraph of this address Mark says:

The conclusion which we are led to by contemplating these pictures is that any place which medicine can have in art must be but a subordinate one and that it is often the better taste for the artist to hide some morbid detail. The true artist has to judge which details he had best make use of, just as he has to choose that particular moment of a scene which is the most interesting, the most pathetic, or the most stirring. When he has to deal with a subject with a morbid side it is essential for him to cultivate some of that *reserve* so noticeable in Greek art. He should "use all gently . . . he must acquire and beget a temperance that may give it smoothness." He must use his art not only to hide art but to hide unpleasant details. What we require of him is to stir up our finer feelings and to rouse our admiration. For it is the very joy of our heart to admire where we can and nothing so lifts us from all our "mean imprisonments, were it but for moments, as true admiration."

34. **Heart Massage as a Means of Respiration.**—Green believes that in suitable cases heart massage is of decided value to the practical surgeon. The kinds of cases in which it may be used with a fair prospect of success are:

(1) Cases of primary arrest of the heart in a condition of acute dilatation from poisoning by an overdose of a powerful volatile drug, such as chloroform; (2) cases where the gradual accumulation of volatile poisons, such as chloroform, leads to primary paralysis of the respiratory and vasomotor centers followed by stoppage of the heart; (3) cases of asphyxia; and (4) cases of suspension of the functions of the vital centers from simple exhaustion or injury, and consequent stoppage of the heart.

The order of procedure in these cases of sudden heart and respiratory failure should be as follows

1. Immediate lowering of the head and the commencement of artificial respiration and tongue traction, taking care that a free access of air to the lungs is possible, and therefore implying tracheotomy if necessary.
2. If the abdomen is open, pressure on the abdominal aorta to confine the circulation to the upper part of the body. If it is not open the intravenous injection of adrenalin solution and the application of Crile's rubber suit or, failing this, tight bandaging of the limbs and abdomen.
3. The subcutaneous or intravenous injection of normal saline solution, partly to raise the blood pressure and partly to dilute any poisons which may be in the blood and tissues.
4. If the above methods have not been successful after being applied for from eight to ten minutes heart massage by the subdiaphragmatic method. This route should always be adopted, unless the chest is already opened or to be operated upon, as being the easiest way of access, the one fraught with least danger to the patient and the one which has given the greatest percentages of success. The time is fixed at from eight to ten minutes because eight minutes is the limit of the interval at which up to the present time a complete success has been obtained in man, and if it is exceeded the danger of the production of fibrillary twitchings, inability to restore consciousness, and the development of spasms in the voluntary muscles with consequent failure of the manipulations have to be taken into consideration. The unavoidable extension of this limit, should, however, be no bar to the adoption of the method, as very hopeful results have been obtained, even when 45 minutes have elapsed from the onset of the syncope before it has been tried.
5. After normal pulsation has returned to the heart, artificial respiration must be continued until spontaneous breathing has been restored or until circumstances make it improbable that such restoration will be obtained.

35. **Arteriovenous Aneurism of Neck.**—In the case reported by Berry the aneurism was composed practically of all the deep and most of the superficial veins of one side of the neck, with the exception of the internal jugular vein.

36. **Three Heart Cases.**—The first case reported by White was one of marked tricuspid stenosis in which the other orifices, with the exception of the pulmonary, were affected. The pulmonic orifice was normal and the valves were healthy. The aortic valves had formed a rigid cartilaginous diaphragm, with the exception of a very narrow slit, and the valves had coalesced completely. The second case was one of rupture of the heart, the result of myomalacia cordis, and the third case was one of chronic aneurism due to fibroid change. The aneurism was situated on the anterior aspect of the left ventricle near the apex.

38. **Operation for Prolapsed Rectum and Internal Hemorrhoids.**—Newman proceeds as follows:

A general anesthetic having been administered, the patient is placed in the lithotomy position with the knees well raised and the hemorrhoids or prolapsed rectum is fully reduced. Then, having explored the passage with the finger, a fenestrated speculum con-

taining the obturator is introduced to its full length; the obturator which prevents the mucous membrane from protruding into the lumen of the speculum during the introduction is then withdrawn. When light is reflected by a forehead mirror into the speculum the congested mucous membrane is seen protruding through the six openings in the speculum, the disc is then passed into the speculum to close the upper end of it, in order to prevent the mucous membrane at the end of the speculum from being accidentally scorched by the cautery. All the mucous membrane which protrudes through the opening of the speculum is freely cauterized with an iron cautery at a dull-red heat, and, if necessary, the speculum is cooled by allowing a stream of water to play on its interior for a few seconds between each application of the cautery. When the operation is completed six narrow strips of cauterized mucous membrane are seen, the surface of which is almost level with the metal of the speculum. The disc is now withdrawn; a half-grain morphin suppository is introduced and the speculum is firmly packed with gauze covered with vaselin, and against the outer end of the gauze the obturator is held, and over it the speculum is withdrawn. The gauze tampon is retained within the rectum, its free end alone showing at the anus. The after-treatment is small doses of opium by the mouth and very limited diet for a week, so as to give the lower bowel complete rest during that time. The external parts are kept well cleansed, the tampon is retained till it causes uneasiness, and on the seventh day a laxative is given.

Australasian Medical Gazette, Sydney.

November 20.

41 Complications of Pregnancy. J. A. G. Hamilton.
42 Two Complications of Pregnancy. T. G. Wilson.
43 Cesarean Section for Epithelioma of Cervix Uteri. A. A. Lendon.
44 Over-Contraction of the Uterus, Causing Difficulties in Labor, Overcome by the Use of Amyl Nitrite. C. H. Souter.
45 Spasmodic Dysmenorrhea. W. T. Chenhall.
46 Urethroscope, Its Development and Its Use. W. R. Fox.
47 *Reintegration of the Absent Middle Third of the Tibia in a Child. T. Fiaschi.

47. Reintegration of Portion of Tibia.—In the case of a girl, 6 years old, the middle third of the right tibia was destroyed entirely as the result of extensive suppuration and subsequent operation. The gap was filled in by a band of cicatricial tissue devoid of any ossification, showing thus the loss of periosteum as well as of bone. Fiaschi filled in the gap by transplanting two flaps formed of skin, periosteum and bone, one being taken from the upper third of the tibia and brought down, the other from the lower third of the tibia and brought up. Each bony flap was of the thickness of the existing fibula. The result was eminently satisfactory.

Presse Médicale, Paris.

48 (XIV, Nos. 93-95, Pp. 741-764.) Development of Science in Persia. Emir F. Kahn. (Dev. scientifique en Perse.)
49 *Experiences at Melun with Behring's Method of Vaccinating Cattle Against Tuberculosis. H. Vallée. (Vaccination antitub. des bovidés.)
50 Ocular Disturbances from Lead Poisoning. F. De Lapersonne. (L'oeil saturnin.)
51 Technic of Amputation of Cervix of Uterus. F. Jayle. (Amput. du col de l'utérus.)
52 *Etiology of Tuberculosis in Children. J. Comby. (Et. de la tub. infantile.)
53 *Uremia in the Tuberculous. P. Teissier. (L'urémie chez lés tub.)
54 The Liver and Iron. J. Castaigne. (Le foie et le fer.)

49. Vaccination of Cattle Against Tuberculosis.—The experiences related in regard to the application of von Behring's method of antituberculosis vaccination demonstrate that it actually does enhance the resisting power of the animals in respect to tuberculous infection to a marked degree. It is also entirely harmless, but the resistance conferred does not seem to last more than a few months.

52. Etiology of Tuberculosis in Children.—Comby urges that greater attention should be paid to the protection of young children against infection with tuberculosis in the home environment. Human contagion is by far the most important factor in the spread of tuberculosis, and, to date, it has been the most neglected in official prophylaxis.

53. Uremia in the Tuberculous.—Teissier has noticed that in patients with chronic pulmonary tuberculosis complicated with insufficiency of the kidneys from any cause, there ensues a slow, complex, progressive general intoxication which entails uremic symptoms of a peculiar character. It is a chronic uremia assuming usually the respiratory or gastrointestinal type, but occasionally the cerebral type with subdelirium or coma. There does not seem to be any tendency to convulsions or epileptiform seizures, even in children, and the type continues unmodified. Differentiation of uremia in the tuberculous is sometimes difficult, as the physician is inclined to attribute to the tuberculosis the dyspneic or gastrointestinal disturbances or to accept the existence of meningitis when the insufficiency of the kidneys leads to subdelirium or coma.

Semaine Médicale, Paris.

55 (XXVI, No. 50, Pp. 589-600.) *Inflammatory Tumors in the Abdomen Simulating Neoplasms. Lejars. (Les tumeurs infl. pseudo-néoplasiques de l'abdomen.)
56 (No. 51, Pp. 601-612.) *Study of Plantar Reflex and Toe Sign. Noica and Sakelaru. (Le reflexe plantaire et le phénomène des orteils—signe de Babinski—au point de vue physiologique et physio-pathologique.)
57 Severe Anemia of Infectious Origin. (Les anémies graves d'origine infectieuse.)
58 General Enlargement of Glands an Early Sign of Certain Acute Infectious Diseases. (L'adénopathie généralisée comme signe de diagnostic très précoce de certaines maladies inf. aigues. Signe de Vipond.)
59 Diagnosis of Cancer of Stomach from Predominance of Mononuclear Blood Cells in Stomach Content. R. Blanche. (Cyto-diagnostic du cancer de l'estomac.)

55. Inflammatory Tumors in the Abdomen.—Lejars remarks that operations are frequently undertaken for the removal of assumed cancers when the tumor proves to be merely the result of localized inflammation. The history of the case sometimes shows the evidences of an inflammatory process, and the tumor develops too rapidly for the assumption of malignant disease. Zones of softening, with final fluctuation and hyperleucocytosis, are both important signs of the inflammatory nature of the lesion. The patient must be interrogated in regard to a possibly overlooked brusque and febrile onset. If this can not be determined, the presence of a hard tumor, knobby and immovable, suggests cancer if there is any tendency to bleeding in the stomach or intestines, but the further history shows a tendency to reabsorption and retrogression of a merely inflammatory tumor. A cancer of the size and development of the tumor would generally be associated with more pronounced cachexia. Examination of the blood, several times repeated, may aid in the differentiation. In case of epithelioma there is reduction in the number of reds while the whites are increased in numbers. In cases of persisting doubt exploratory laparotomy with microscopic examination is necessary to avoid delay, but it must be borne in mind that the tissues are peculiarly friable in case of inflammatory processes, and that there is grave danger of lacerations and perforations during operative interference. On the other hand, the inflammatory process is liable to be extraordinarily benefited by the slight operation done with extreme care and gentleness.

56. Plantar Reflex and Toe Sign.—Noica concludes from his research on the plantar reflex that the center governing the external plantar reflex and abduction of the toes, and the Babinski toe sign is located in the fifth lumbar segment. When the reflex is limited to the muscles of the foot it is physiologic, but when it includes the muscles of the leg (Babinski sign) it indicates pathologic conditions.

Archiv für klinische Chirurgie, Berlin.

Last indexed XLVII, page 203.

60 (LXXX, No. 1, Pp. 1-277.) Traumatic Osteomata, Callus Tumors without Fracture. Fritz König. (Traum. Osteome, fracturlose Callusgeschwülste.)
61 *Cancer of the Rectum. J. Petermann. (Mastdarmkrebs.)
62 Wounds of Joints During Campaign in Manchuria. L. Bornhaupt. (Schussverletzungen der Gelenke im russ.-jap. Kriege, 1904-5.)
63 *Suction in Treatment of Surgical Tuberculosis. Klapp. (Behandlung des chir. Tuberculose mit dem Schropfverfahren.)
64 *Surgery of Tumors in Suprarenals. L. Bogoljuboff. (Zur Chirurgie der Nebennierengeschwülste.)
65 *Hemolytic Reaction of Blood Serum in Malignant Disease. G. Kelling. (Neue hämolytische Reaction des Blutserums bei malignen Geschwülsten und bei malignen Blutkrankheiten, und ihre diagn. und statist. Verwendung in der Chirurgie.)
66 Papillary Growths in the Gall Bladder. F. Pels-Leusden. (Pap. Wucherungen in der Gallenblase, und ihre Beziehungen zur Cholelithiasis und zum Carcinom.)
67 Firearm Wounds of Abdomen. W. v. Oettingen. (Schussverletzungen des Bauches nach Erfahrungen im russ.-jap. Kriege, 1904-5.)
68 Experiences with Dry Treatment of Wounds. Goldammer. (Erf. mit trockener Wundbehandlung im sudwestafrikanischen Kriege.)
69 Intravesical Cure of Cyst of Ureter. B. Klose. (Ein auf intravesc. Wege durch das Operations-Kystoskop geheilter Fall einer Harnleitercyste.)
70 *Surgery of the Heart. W. Wendel. (Zur Chirurgie des Herzens.)
71 Technic of Operative Treatment of Femoral Hernia. Sprengel (Schenkelhernien.)
72 *Silver Wire for Deep Suturing. Küster. (Silberdrahtnaht als percutane Tiefennaht.)
73 Method of Covering Gap in the Skull. C. Beck. (Ueber eine neue Methode der Deckung von Schädeldefecten.)

61. Cancer in Rectum.—Petermann reviews his experience with rectal cancer in 104 male and 51 female patients. A radi-

cal operation was performed in 70.9 per cent. of the cases, and 41.3 per cent. of the patients who survived the operation and its results have been permanently cured. This is a proportion of 27.8 per cent. permanently cured out of the total number of patients operated on.

63. **The Cupping Process Applied to Surgical Tuberculosis.**—Klapp has applied suction therapy in the treatment of tuberculous fistulas and tuberculous processes approaching the softening stage. The technic was that of the ordinary Bier-Klapp cupping procedures for local inflammation of any kind. The opening of a cold abscess, followed by application of a cupping vessel, was never followed by secondary infection in the experiences at the Bonn clinic. The granulations are never disturbed, and this leaves intact the natural ramparts against secondary infection. After aspiration of the pus and secretions the suction is continued and a limpid serum is constantly exuded, sometimes containing blood corpuscles and bacteria, in amounts reaching from 5 to 8 c.c. As all this fluid could not have been contained in the immediate part, it must have been aspirated from the surrounding regions and thus actually rinses out the region, flushing out the impurities. The procedure is repeated for about an hour daily, and proves a powerful protection against ascending infection from without. Unless this aspiration is applied, he thinks it would be a sin to open up a cold tuberculous abscess, but it is safe, he declares, to do so with suction therapy, and these abscesses need no longer be regarded as a *noli me tangere*. Inoculation of guinea-pigs with the contents of a tuberculous abscess being treated by suction showed that very few of the animals succumbed to tuberculosis later. A number of the animals died, but no tuberculous lesions could be detected in them. The benefits of suction treatment were so marked that some visitors to the clinic expressed doubt as to whether the lesion could have been of a tuberculous nature until shown other unmistakably tuberculous lesions elsewhere on the same patient. Excellent results have also been obtained in cases of synovial tuberculosis of the knee under treatment with hyperemia induced by large suction vessels supplemented by repeated punctures. The exudate is rapidly renewed, but with it come the antibodies.

64. **Suprarenal Tumors.**—Bogoljuboff reports a case in a woman of 42 cured by ablation of the tumor, and summarizes the other cases of the kind on record, discussing the best technic.

65. **Hemolytic Reaction in Malignant Disease.**—Kelling here describes a specific hemolytic reaction of the blood serum in case of malignant tumors and malignant disease of the blood. The reaction is a hemolysis of the blood corpuscles from a vertebrate animal of the same species whose embryonal cells have been incorporated alive in the patient's body. This reaction is constant and independent of the food, but it disappears after removal of the cancerous growth, although it recurs in case of metastasis. The same reaction can be elicited by injection of particles of the tumor into an animal. The hemolytic reaction gives the same results as the precipitation reaction. A positive response testifies to the presence of cancer. His views in regard to the origin of cancer from embryonal cells, ingested or otherwise incorporated, its prevention and serum diagnosis were mentioned in these columns on page 1733 of vol. xliii, 1904.

70. **Surgery of the Heart.**—Wendel describes a case in which he successfully operated, the young man having resumed hard work since without further inconvenience from a severe stab wound of the heart. He adds that 42 out of 102 injuries of the heart treated by operative intervention to date have been permanently cured.

72. **Silver Wire Suture for Percutaneous Deep Sutures.**—Küster gives the particulars of some cases in which he used silver wire after the abdominal wound had twice burst open in one case, and relates others showing the unreliability of other suture materials under certain circumstances. He passes the wire entirely through the abdominal wall, the sutures about 4 cm. apart. The wound is then sutured with catgut in tiers, and the wire drawn up and tied afterward. The advantages are that the lower parts of the wound are brought into close contact, while rupture of the hernia later is almost impossible, even in case of suppuration. The wires can also be easily removed at any time.

Beiträge zur klinischen Chirurgie, von Bruns', Tübingen.
Last indexed XLVI, page 1802.

74 (XLIX, *R. U. Krönlein Jubiläumsband.*) Intestinal Functions After Extensive Resection of Small Intestine. C. Schlatter. (Darmfunktion nach ausgedehnten Dünndarmresektionen.)
75 Dislocation of Fractures. H. Zuppinger. (Dislokation der Knochenbrüche.)
76 Limits of Roentgen Differentiation. Id. (Grenzen der radiographischen Differenzierung.)
77 *Surgical Treatment of Pneumothorax. L. Spengler. (Zur Chirurgie des Pneumothorax.)
78 Retrobulbar Surgery of Orbit. E. Köhl. (Retrobulbare Chir. der Orbita.)
79 Kidney and Ureter Surgery. A. Lüning. (Zur Nieren- und Ureter-Chirurgie.)
80 Experiences with Bottini Operation for Hypertrophied Prostate. R. Stierlin. (Erfahrungen mit der Bottinischen Operation bei Prostata-Hypertrophie.)
81 Bilateral Rupture of Biceps. P. Wiesmann. (Fall von doppelseitiger Bicepsruptur.)
82 *Treatment of Exophthalmic Goiter. J. Michalski. (Therapie des Morbus Basedowii.)
83 *Origin of Cutaneous Roentgen Carcinoma and of Carcinoma in General. M. O. Wyss. (Entstehung des Röntgencarcinoms der Haut und des Carcinoms im Allgemeinen.)
84 Cystic, Hemorrhagic Scrofulous Enlargement of Suprarenal. K. Henschen. (Ueber Struma suprarenalis cystica haemorrhagica.)
85 *Surgery of Subcutaneous Laceration of Kidney. H. Brun. (Zur Chirurgie der subkut. Nierenzerreissungen.)
86 Fractures of Metatarsal Bones. C. Schlatter. (Frakturen der Mittelhandknochen.)
87 Case of Median Cleft. E. Monnier. (Fall von sogen. Medianspalte.)
88 *Weather and Surgical Skin Infections.—Das Wetter und die chir. Haut-Infektionen. A. Wettstein.
89 Retention of Testicle. Schönholzer. (Kryptorchismus.)
90 *Operative Treatment of Round Gastric Ulcer and Its Consequences at Krönlein's Clinic. F. Kreuzer. (Chir. Behandlung des runden Magengeschwürs und seiner Folgezustande an der K.'schen Klinik in Zurich. 1887-1904.)
91 Technic and Results of 137 Aseptic Operations on Stomach. C. Brunner. (Keimprophylaxe, Technik, Wundverlauf und Wundfieber bei aseptisch angelegten Eingriffen am Magen, 1896-1905.)

77. **Operative Treatment of Pneumothorax.**—Spengler writes from Davos to describe his operative cure of 10 patients with tuberculous pneumothorax. In 6 cases the pulmonary tuberculosis was cured at the same time. He treated 23 other patients with tuberculous pneumothorax in the same way, but was unable to effect a cure. This proportion of 30 per cent. cures far surpasses those published by other authors, Drasche, West, Rose and Mosheim having realized only from 0.5 to 16 per cent. of cures in a material ranging from 19 to 189 cases. The lung retains its elasticity, even under severe compression, for several months and expands after the pressure is removed.

82. **Treatment of Exophthalmic Goiter.**—Michalski has observed one case of spontaneous recovery from exophthalmic goiter. The affection came on suddenly and vanished in the course of a week or so. His rule of treatment of exophthalmic goiter is with change of air and serotherapy at first, supplemented, possibly, by hydrotherapy, electricity, psychic influences and internal, symptomatic measures. If this treatment does not show any benefit at all in the course of three or four weeks, he insists on operative treatment. The operation should be the least serious intervention possible to accomplish the desired result.

83. **Origin of Cancer.**—Wyss concludes from his research on the mode of development of cancer from excessive and protracted Roentgen exposures that the blood vessels gradually become smaller and finally entirely obliterated under the influence of the *x*-rays. The epithelial cells become obliged to obtain their nourishment direct from the adjacent cells or tissues, and thus they assume the character of parasites. This explanation of the origin of Roentgen cancer applies also to other kinds of cancer for which interference with the blood supply may be the primal cause. Roentgen cancers are particularly liable to develop on skin already the seat of some morbid process, such as erythematous lupus, and special care is needed in making exposures with such patients. He has had a case under observation in which a cancer developed on the part exposed in Roentgen treatment of lupus.

85. **Operative Treatment of Subcutaneous Laceration of Kidney.**—Brun advocates the retroperitoneal route in the lumbar region as offering the most ample access and the simplest con-

ditions for conservative treatment. If the case proves too serious for conservative measures, little harm has been done, while in less serious cases they can be easily carried out. In a case described, the kidney was torn completely across into the hilus on one side and more than half way on the other, separating it nearly into halves, the result of a fall from a ladder. The arteries were ligated and the halves sutured together again. The accumulated blood was wiped out without rinsing, and a Mikulicz tampon applied; the operation was completed in an hour and three-quarters. The signs of traumatic nephritis gradually subsided, the urine soon became normal, and the patient is now in apparently perfect health.

88. **The Weather and Surgical Cutaneous Affections.**—Wettstein has been studying the influence of weather conditions on the occurrence of furuncles and carbuncles. He noted a greater frequency at the beginning and end of winter and in midsummer. The frequency is determined by three meteorologic factors, he is convinced, namely, the temperature of the air, its humidity and the force of the wind. The temperature acts by its vicissitudes, the changes from cold to warm at different parts of the day, and by the extreme heat of midsummer. Humidity is also an important factor, the excess at certain seasons and the lack of humidity at others having each an unfavorable effect. Strong cold winds also favor the development of furuncles, but warm winds, he states, have an inhibiting influence. The more sunshine the less furuncles, as a rule. These influences are not manifested at the moment, but soon afterward, although sometimes their effects appear with amazing precision. The above findings were also noticed with felons and phlegmons. Long continued foggy weather, he declares, unmistakably increases the numbers of furuncles observed.

90. **Surgical Treatment of Round Gastric Ulcer in Krönlein's Clinic.**—Two hundred pages are devoted to this study of 116 cases of round ulcer, with the findings of recent examination of a large number of patients on whom operations were performed. No symptom was observed that can be called pathognomonic, but the duration of the troubles is an important aid for the diagnosis, especially in the comparatively mild cases. If the assumed "chronic gastric catarrh" persists for years in spite of internal treatment, an ulcer can be surmised, even if there are no traces of hemorrhage. Occasionally these patients with "chronic gastric catarrh" die of perforation of the unsuspected ulcer.

Berliner klinische Wochenschrift.

92 (LXIII, No. 45, Pp. 1443-1470.) Etiology of Paralysis of Inferior Laryngeal Nerve. Dege. (Lähmung des N. laryngeus inf.)
93 *Status hemiepilepticus. M. Bernhardt.
94 *Syphilis Affecting the Nervous System. H. Hübner. (Lues nervosa.)
95 *Treatment of Cystitis with Alcohol. J. Sellei. (Behandlung der Cystitis mit Alkohol.)
96 *Specific Treatment of Tuberculosis. E. Maragliano. (Die spez. Therapie der Tuberkulose.)
97 *Intestinal Origin of Anthracosis of the Lungs. M. Cohn. (Die Lungenanthrakose und ihre Entstehung vom Darm aus.)
98 Examination of the Larynx and Principal Laryngeal Affections in Children. G. Finder. (Kehlkopfuntersuchung und Kehlkopfkrankheiten bei Kindern.)
99 (No. 46, Pp. 1471-1498.) Is there to date any exception to the rule that in case of intensive affection of the recurrent nerves of the vagus the abductors of the vocal cords manifest functional disturbances earlier than the adductors? O. Rosenbach. (Bei intensiver Affektion der Nn. recurrentes vagi die Abduktoren der Stimmbänder früher Funktionsstörungen zeigen als die Adduktoren?)
100 *Chronic Icterus. Claus and Kalberlah. (Ueber chron. Icterus.)
101 *Sahli's Desmoid Test of Chemical Functioning of the Stomach. L. von Aldor. (Ueber eine auf natürliche Art ohne Verwendung des Magenschlauches vorzunehmende Untersuchung des Magenchemismus.)
102 Combination of Plastic Induration of Penis and Dupuytren's Contraction. H. Neumark. (Plastische Induration des Penis und D'schen Kontraktur.)
103 *Action of Radium Emanations on Human Body. S. Loewenthal. (Wirkung der Radiumemanation auf den menschl. Körper.)

93. **Status Hemiepilepticus.**—Bernhardt reports a case of severe hemiepilepsy developing in a woman of 35. The seizures recurred every half-hour and swallowing was difficult. When this stage was reached by the end of two months a crucial incision was made in the dura of the opposite side, but nothing abnormal was found then or at the autopsy the next day. He discusses the difficulty of proper advice by the physician in such cases; no lesion or tumor may be found on operating and the condition may improve at any moment to relative health.

94. **Syphilis of the Central Nervous System.**—Hübner describes several cases of what is generally described as "lues nervosa," but which he thinks can be explained just as well by other factors as well as by the syphilis.

95. **Alcohol in Treatment of Cystitis.**—Sellei has found the bactericidal and astringent properties of alcohol very useful in treatment of cystitis, especially of gonorrheal origin and in patients with hypertrophied prostate. He rinses out the bladder with a 5 to 15 per cent. solution, increasing the strength gradually. At first he allows the fluid to run out of the bladder at once, repeating the rinsing every day to every second or third day. Later he allows the fluid to remain from 10 to 30 minutes in the bladder. The anti-catarrhal action of the alcohol is very pronounced and beneficial.

96.—See abstract on page 1965 of the last volume.

97. **Intestinal Origin of Anthracosis of the Lungs.**—Cohn's experiments failed to confirm the assertions of Calmette in regard to the intestinal origin of experimental anthracosis of the lungs.

100. **Chronic Icterus.**—Claus adds two to the list of 30 cases of chronic icterus which he has found on record. His patients were brothers. Enlargement of the spleen was a prominent feature in all the congenital cases, with slight enlargement of the liver. In the acquired cases the enlargement of the liver was more prominent. The various factors in the etiology are discussed.

101. **Desmoid Reaction.**—Aldor regards this test of the chemistry of the stomach as an index of the proteolytic power of the stomach rather than a test of the free hydrochloric acid. His experiences with it have been rather disappointing.

103. **Action of Radium Emanations on Human Body.**—Loewenthal reports tests made with water exposed to the action of radium in a covered vessel. The water was then ingested or air was inhaled through it. The reaction on the part of the sick differed from that observed in healthy persons and resembled somewhat the painful reaction to a course of mineral waters. The emanations seemed to be absorbed by the lungs and not by the skin; elimination occurred by way of the lungs and urine.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

104 (XXXII, No. 48, Pp. 1937-1976.) Pathologic-Anatomic Findings in the Eyes in 2 Cases of Inherited Syphilis. H. Schlimpert. (Path.-an. Befunde an den Augen bei 2 Fällen von Lues congenita.)
105 Spirochetes in Human Eye. H. Bab. (Beitrag zur Genese der Augenerkrankungen bei hereditärer Lues.)
106 *Diagnostic Importance of Examination of Blood and Tissues in Syphilis. A. Neisser, C. Bruck and A. Schucht. (Diagn. Gewebs- und Blutuntersuchungen bei Syph.)
107 (No. 49, Pp. 1977-2016.) Infection of Man with Bovine Tubercle Bacilli. A. Weber. (Infektion des Menschen mit den Tuberkelbacillen des Rindes—Perlsuchtbacillen.)
108 Agglutinins and Specific Immune Bodies in Gonococcus Serum. T. Vannod. (Agglutinine und Immunkörpern im Gon. Serum.)
109 Coincidence of Positive Biologic Reaction and Presence of Spirochetes in Syphilitic Infants. H. Bab. ("Ueber syphilitische Antistoffe in der Cerebrospinalflüssigkeit von Paralytikern.")
110 Active Immunization of Man Against Typhoid. E. Friedberger and C. Moreschi. (Zur aktiven Imm. des Menschen gegen Typhus.)
111 *Prescribing and the Pharmacopeia. C. Bachem. (Arzneiverordnung und Pharmakopoe.)
112 Some New Secret Remedies, Specialties, etc. F. Zernik. (Neue Arzneimittel, Spezialitäten und Geheimmittel.)
113 The Physician's Residence. H. Schmieden and J. Boethke. (Das Arzthaus.) Commenced in No. 47.

106. **Diagnostic Research on Blood and Tissues in Syphilis.**—Neisser ascribes great diagnostic importance to the results of his study of the blood and tissues in syphilitics. With the aid of the "complement deviating" hemolytic blood test it is possible to distinguish in the extracts of organs and organic juices the presence of dissolved bacterial substance and also the presence of the antibodies produced by the organism. The antigen is the specific substance produced by the agent causing the disease, and induces the production of the antibody. A positive antigen reaction indicates the presence of the parasites of syphilis still in the body, and consequently the patient requires treatment. A positive antibody reaction alone, on

the other hand, indicates merely that the patient at some former time has sheltered the parasites of syphilis, and treatment to expel or destroy the parasites is not called for, as there is none left in the body, unless manifest symptoms of syphilis still persist or the disease has never been treated. He urges physicians to send for examination extracts of blood and organs, and specimens of serum or cerebrospinal fluid from suitable cases of syphilis, hoping to promote the study of the subject by extending the research. All such communications should be addressed to Dr. K. Zieler, Maxstrasse 1, Breslau. He is especially anxious to obtain for study and for practical differentiation extracts of tissues from organs of fetuses and children, placentæ, excised glands and excised neoplasms in case of doubt as to the presence of syphilis; also blood extracts and serum from patients whose syphilis is still dubious, either owing to doubtful infection in the distant past or possibility of infection from recent opportunity for contagion, or in cases in which the symptoms suggest a possible syphilis without any known cause for contagion, and, further, in cases in which syphilis is known to have existed but in which it is important to determine whether or not the patient has been cured by appropriate treatment. The practical importance of differentiation and certainty in these cases, by means of the simple test in the hands of experts, is self-evident.

111. **Prescribing and the Pharmacopeia.**—Bachem has been investigating the number of drugs listed in the pharmacopeia which are never called for in prescriptions. His inquiries were made mostly in Bonn, and he found a considerable number of drugs which he thinks had better be dropped from the next edition of the pharmacopeia, owing to the fact that they are never called for or for other reasons. In his list of 17 or more he includes zinc acetate, elixir amarum, acetum aromaticum, etc., giving the reasons for omitting them. Leeches and surgeon's agaric, he states, should also be omitted from official publications, owing to the impossibility of rendering them aseptic. On the other hand he gives a list of nearly a dozen proprietary medicines which he thinks deserve a place in the pharmacopeia. He also suggests that the term "carbolic acid" should be dropped, as the substance is not an acid, phenol or carbolum being much more appropriate for an official work. The maximal dose for strychnin nitrate he would also reduce from the present 0.01 gm. to 0.005 gm. as the former is too close to the border line of toxic action. Certain potent drugs, as digitalis leaves, for instance, should be tested more carefully. If chemical tests are inadequate they might be supplemented by others, such as Fock's suggestion to accept as a standard the interval before the frog's heart comes to systolic standstill.

Münchener medizinische Wochenschrift.

114 (LIII, No. 48, Pp. 2329-2376.) Experimental Tabes in Dogs. W. Spielmeyer. (Exp. Tabes bei Hunden: Trypanosomen-Tabes.)
115 *Gonorrhea in Men and Its Consequences for Married Women. W. Erb. (Zur Statistik des Trippers beim Manne und seiner Folgen für die Ehefrauen.)
116 *Nervous Heart Affections and the Conception of Cardiac Weakness. L. Krehl. (Nervöse Herzerkrankungen und den Begriff der "Herzschwäche.")
117 *Experimental Study of Action of Stasis Therapy on Infectious Processes. P. v. Baumgarten. (Experimente über die Wirkung der Bierschen Stauung auf inf. Prozesse.)
118 *Conservative Operations for Myoma. H. Fehling. (Zur Berechtigung der kons. Myomop.)
119 *Upward Extension of Spinal Analgesia. Dönitz. (Höhenausdehnung der Spinalanalg.)
120 *Tuberculin Treatment of Pulmonary Tuberculosis. Hammer. (Tuberk.-Behandlung der Lungentub.)
121 *Results of Opium-Bromid Treatment of Epilepsy. Kellner. (Erfolge der Opium-Brom-Kur.)
122 Backing Up of Urine Toward Renal Hilus. R. Geigel. (Rückstauung des Urins nach dem Nierenbecken.)
123 Proposed Modification of Regulations in Regard to Accident Insurance. F. Hackländer. (Vorschläge zu einer den Heilprozess nicht retardierenden Unterstützung des Unfallverletzten.)
124 *New Technical Terms Used in Works on Immunity, etc. Dieudonné. (Fachausdrücke aus der neuern Immunitätslehre.)

115. **Statistics of Gonorrhea in Men and Its Consequences for Married Women.**—Erb tabulates statistics from his general practice at Heidelberg which show that 45 per cent. of 2,000 male patients were entirely free from venereal disease. In another table he shows the effects on the wife of gonorrhea in the husband in 400 cases in which he has positive data on the subject. He found that 93.75 per cent. of the women were free from any pelvic affection that could be attributed to gonorrhea. In 68 per cent. of these families there were two or three children, and in 25 per cent. four or more. The proportion of sterile marriages was less than 12 per cent., while in 44 cases there was only one child.

116. **Cardiac Neuroses.**—Krehl discusses the subject of myocardial and neurogenic cardiac disturbances. He urges more thorough study from the standpoint of psychology and psychiatry of individuals with heart disturbances. It is still a question whether cardiac disturbances, resembling the psychogenic, can occur in individuals free from psychic anomalies. If this question could be decided by competent authority, the clinic could then distinguish between psychic and psychogenic cardiac disturbances as Strümpell has accomplished for dyspepsia of this varied etiology.

117. **Experimental Study of Artificially Induced Hyperemia.**—Rabbits were injected with staphylococci, or tubercle or anthrax bacilli, and a constricting band was then applied above according to the Bier technic for stasis therapy. If the dose was not very large, the animals injected with anthrax bacilli did not seem to suffer from the injection, but the results were negative with tubercle bacilli. The staphylococcus processes healed much more rapidly than under normal conditions, but the passive congestion failed to prevent the development of the lesions. The factors that aid in the effect of the artificially induced hyperemia are evidently due, Baumgarten thinks, to the delayed absorption, to the dilution of toxins and to the lack of sufficient nourishment for the bacteria in the media, plus a certain bactericidal action on the part of the accumulated blood serum. The bacteria die very slowly and sometimes survive, which suggests starvation rather than vigorous bacteriolysis. Tubercle bacilli are not susceptible to the bactericidal action of the serum, and are also remarkably resistant to the effects of starvation.

118. **Conservative Myoma Operations.**—Fehling advocates early vaginal operations with anterior hysterotomy, and relates excellent results from this technic.

119. **Upward Extension of Spinal Analgesia.**—Dönitz writes from Bier's clinic to discuss various features of spinal anesthesia. He has found that the upward extension of the analgesia is dependent to a large measure on the amount of fluid injected, on the position of the patient after the injection, and on the conditions of the blood pressure inside the skull. When the injection is made on the reclining patient and he remains reclining, the anesthetized region is comparatively small and does not extend above the groin, as a rule, but when the injection is made on the seated patient, who then reclines, the change of position alters the center of gravity of the fluid in the spinal canal, and the anesthetic spreads higher. Raising the pelvis sends it higher still. When the pressure of blood in the arteries and veins in the skull becomes very high its walls can not yield, and the cerebrospinal fluid is driven out into the spinal canal. In case of heart defects, even extreme raising of the pelvis with resulting intense cyanosis of the face, is not accompanied by high analgesia. It did not suffice for even inguinal herniotomy in several such cases in his experience, with mitral insufficiency or other causes for venous congestion. It is possible that the cyanosis of the face may serve as an index of the dilatation of the veins inside the skull. He warns against spinal analgesia for patients who become thus cyanosed during a trial, preliminary raising of the pelvis, as this technic is almost certain to fail in such cases. When the blood runs out of the skull the cerebrospinal fluid rises into the skull and carries the anesthetic with it. One way to accomplish this, he states, is by applying a constricting band to the neck before the injection. On its removal, after the anesthetic has been injected, the cerebrospinal fluid rises. Another way to aspirate the fluid upward is by deep inspirations, then closing the nose, allowing expiration to proceed freely—a kind of reversal of Valsalva's experiment. This aspirates the blood out of the skull even when the pelvis is raised. Dönitz has never observed vomiting after a very high or total spinal analgesia. In elderly people, the anesthesia induced is more in-

tense and lasts longer and the after-effects are less than in the young. It may be said that the lower half of the lumbar sac for the elderly and the upper half for the young, is a good rule for spinal analgesia. It has been found inadvisable to try to restrict the analgesia to the field of operation. It is better to have it extend considerably beyond it, thus reducing the chances of failure. For operations on the perineum, especially in the elderly and in individuals with weak hearts, it is unnecessary to dilute the fluid. Consequently the injection is made reclining, and only 2 c.c. of fluid are injected, and the patient does not change his position. For operations on the legs, from 3 to 5 c.c. of cerebrospinal fluid are drawn into the syringe; for operations on the appendix or kidneys and for herniotomies, from 6 to 10 c.c. are aspirated and the pelvis is raised a little. For higher operations, a constricting band is applied to the neck and the anesthestic is injected in 10 c.c. of cerebrospinal fluid, after which the constriction is removed at once from the neck, and the pelvis raised to the extreme Kader position, with deep, prolonged inspiration. The dose of the anesthetic may be slightly increased in this case, he states, in order to prolong the analgesia.

120. **Tuberculin Treatment of Tuberculosis.**—Hammer has been treating tuberculosis with tuberculin during the last six years, and reports his experience with 100 patients. About 60 completed the full course and all were benefited, some to a remarkable extent. He remarks that this treatment needs to be individualized more than any other, but that, on the whole, the results are better than from any other method known to date "while we are waiting for von Behring to fulfill his promise." Hammer commences with 0.000001 gm., increasing by the same amount to 0.00001 gm. and then by this amount to 0.0001 gm. and so on till in the course of 55 injections the total amount injected is 5.999995 gm. The ideal is to keep always on the border line of a reaction. His patients were all working people and out-patients.

121. **Opium-Bromid Treatment of Epilepsy.**—Kellner has treated 85 epileptics at the Alsterdorf asylum for idiots and epileptics with a special course of opium and bromid, which has resulted, he states, in the cure of 22 of the 54 patients who completed the course. In 13 others the seizures have become very much less frequent and less severe, with intervals of several months and without contractions. Only 6 patients failed to profit by the treatment. He gives for 50 days 0.05 gm. extract of opium three times a day, increasing gradually until the maximum of 0.29 gm. is reached the fiftieth day; the next morning 0.3 gm. is given and the opium discontinued. He then commences with 2 gm. of a mixture of 1 gm. each of potassium bromid and sodium bromid with half a gram of ammonium bromid, taken in a glass of fresh seltzer water. This dose is taken at noon and again at night from the fifty-first to the fifty-eighth day, gradually increasing it to the maximum of 9 gm. daily, which is continued for months. During the course of opium he gives three times a day a tablespoonful of 1 per cent. solution of hydrochloric acid, and Carlsbad salts at need, with a light and predominantly vegetable diet, and a daily bath at 24 C. (75 F.) for 10 minutes the first day; 23 C. for 9 minutes the second day, and so on to a bath of 17 C. (62 F.) for 3 minutes the eighth day, repeating this without change for a week and then lengthening the bath by one minute until the maximum of 6 minutes is reached by the end of the 50 days of the opium course. The above dosage is for otherwise healthy adults.

124. **The New Technical Terms in Immunity Research.**—Several columns are devoted to definitions of the terms recently coined to express the new facts learned in research in immunity. They show that much confusion would be avoided if workers in different countries would accept the terms already conferred by some previous worker instead of inventing new ones for the same idea. Most of the terms are self-explanatory. "Alexin" and "cytase" are synonyms, and "allergie" represents the extra-sensitiveness to a reaction, as, for instance, the sensitiveness of the tuberculous to tuberculin. The substance that affects the bacteria or the blood cells, making them more sensitive, like a sensitized photographic plate, is called variously the "sensibilisatrice," "Immunkörper," "Amboceptor," and "Praeparator."

Virchow's Archiv, Berlin.

Last indexed XLVII, page 2129.

125 (CLXXXVI, No. 2, Pp. 135-319.) Tuberculosis of the Arteries. O. Geissler. (Arterientub.)
126 Genesis of Tubercle in Kidney. K. Buday. (Ex.-histologische Studien über die Genese des Nierentuberkels.)
127 Non-malignant Melanomata of the Skin. M. Tièche. (Benigne Melanome — "Chromatophoroma" — der Haut. "Blaue Nevi.")
128 Melanoma of Spinal Cord. A. Hirschberg. (Chromatophoroma medullæ spinalis.)
129 Giant Cells with Nuclei in Margin in Sarcomata. R. Zipkin. (Riesenzellen mit randständigen Kernen in Sarkomen.)
130 Bone-Marrow Tumor Between Kidney and Suprarenal. O. Brian. (Eine aus Knochenmark bestehende Geschwulst zwischen Niere und Nebenniere.)
131 *Congenital Impermeability of Biliary Passages. S. Fuss and B. Boye. (Kong. Unwegsamkeit der Leberausführungsgänge.)
132 Significance of Fibroglia Fibrils. A. F. Coca. ("Fibroglia" Fibrillen.)
133 Degeneration of Columns in Secondary Carcinomatosis of Spinal Membranes. E. Rehn. (Echte und falsche Strangdegeneration bei sek. Karzinomatose der Rückenmarkshäute.)

131. **Congenital Impermeability of Biliary Passages.**—Fuss and Boye have collected 39 cases from the literature and add the description of a case personally observed. The latter with 16 in the literature belong to a group of malformations in which, with normal gall bladder, part of the biliary passages was lacking. In another group of 7 the trouble was traceable to inherited syphilis, and in the rest to absence of a gall bladder. Fibrous nodules were found in the place of the missing gall bladder, assumed to be the relics of some intrauterine inflammation which had run its course during intrauterine existence. Such a process was discovered also in Wronka's case, with evidences of diphtheric inflammation.

Norsk Magazin f. Lægevidenskaben, Christiania.

Last indexed XLVII, page 1966.

134 (LXVII, No. 10, Pp. 1153-1248.) Two Cases of Bulbar Paralysis without Anatomic Findings. E. Krogh. (Bulbærparalyse uden anatomisk fund.)
135 *Lucas J. Böer, M.D., 1751-1835. K. Brandt.
136 Anesthesia with Nitrogen Monoxid. J. Rygge. (Om lystgasnarkoser.)
137 Bronchitis, Asthma and Trigeminal Neuralgia due to Primary Irritation of the Nerves in the Nose with Secondary Vasomotor paresis. B. M. Behrens (Minneapolis).

135. **L. J. Böer.**—This historical sketch of an eminent German obstetrician of the early part of the last century gives an interesting picture of the times. He had charge of the Maternity at Vienna, and during his 39 years' incumbency the mortality from puerperal fever was only 1.25 per cent. of 71,395 births—a brilliant record for the days before Holmes and Semmelweis. His extreme care in watching over his patients caused his French colleagues to call him "a midwife in breeches."

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

STUDIES IN THE BACTERIOLOGY AND ETIOLOGY OF ORIENTAL PLAGUE. By E. Klein, M.D., F.R.S., Lecturer on Advanced Bacteriology at the Medical School of St. Bartholomew's Hospital, London. With 89 Photograms. Cloth. Pp. 301. New York: The MacMillan Company, 1906.

SYLLABUS OF LECTURES ON HUMAN EMBRYOLOGY. An Introduction to the Study of Obstetrics and Gynecology for Medical Students and Practitioners. By W. P. Manton, M.D. Third Edition, Revised and Enlarged. Cloth. Pp. 136. Price, $1.25 net. Philadelphia: F. A. Davis Company, 1906.

DISEASES OF CHILDREN. A Manual for Students and Practitioners. By G. M. Tuttle, M.D., Attending Physician to St. Luke's Hospital. Second edition, revised and enlarged. Cloth. Pp. 392. Price, $1.50 net. Philadelphia: Lea Brothers & Co.

WHO'S WHO, 1907. An Annual Biographical Dictionary. Fifty-ninth Year of Issue. Cloth. Pp. 1958. Price, $2.50. London: Adam and Charles Black; New York: The MacMillan Company, 1907.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. XVIII. For the Year 1905. Cloth. Pp. 293. New York: The Greenwich Printing Company, 1906.

HYGROMEDRY. By H. E. Wetherill, Fourth Edition, Revised, Enlarged, with Many New Plates. Pp. 82. Price $2.50. Published and illustrated by the Author (3734 Walnut Street, Philadelphia.

BEITRÄGE ZUR SYPHILIS-FORSCHUNG. By M. von Neissen, Wiesbaden IX. Paper. Pp. 31.